

09/673,840

## Sequence Protocol

*old format*

## (1) GENERAL INFORMATION:

## (i) APPLICANT:

- (A) NAME: metaGen - Gesellschaft für Genomforschung mbH
- (B) STREET: Ihnestrasse 63
- (C) CITY: Berlin
- (E) COUNTRY: Germany
- (F) POSTAL CODE (ZIP): D-14195
- (G) TELEPHONE: (030)-8413 1673
- (H) FAX: (030)-8413 1674

(ii) TITLE OF INVENTION: Human Nucleic Acid Sequences from Normal Bladder Tissue

(iii) Number of sequences: 365

## (iv) COMPUTER-READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk
- (B) COMPUTER: IBM PC compatible
- (C) OPERATING SYSTEM: PC-DOS/MS-DOS
- (D) SOFTWARE: Patentin release #1.0, version #1.25 (EPO)

## (2) INFORMATION ON SEQ ID NO. 1:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1722 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

RECEIVED 09/06/90

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

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cgttgaagta gatgcacaac agtgtatgct tgaaatcttg gatactgcag gaacggagca 60
atttacagca atgagggatt tatacatgaa aaatggacaa ggatttgcatt tagttttattc 120
catcacagca cagtccacat ttaacgattt acaagacctg agagaacaga ttcttcgagt 180

taaagacact gatgatgttc caatgattct tgttggtaat aagtgtgact tgggaagatga 240
aagagttgta gggaaggaac aaggtcaaaa tctagcaaga caatggaaca actgtgcatt 300
cttagaatct tctgcaaaat caaaaaataaa tgtaaataag atcttttatg acctagtgcg 360
gcaaattaac agaaaaactc cagtgcctgg gaaggctcgc aaaaagtcatt catgtcagct 420
gctttaatat actaaatgca ttgtagctct gagccaggct tgaagaactg ttgcccaatt 480
caacagtgcc agcattccaa ctttggttaa cctaccaaca tcttaaatgg actttcctgt 540
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ttccagttac acaagagaga tttttactta tataatagtc ctagagtttg cagctggtaa 660
aaccagaggc tacatccagt attactgcta agagacattc ttcattccacc aatgttgtac 720
atgtatgaaa atggtgtact gtatacttta acatgcccca tactttgtat tggagagtac 780
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cctatataga ctactccaga taacttcgct tctttgatac ttgtagctta ttgtaatttt 900
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atgcattaat gtttggatgt aaagattgtg tgtctatcca acagggagcc acagtattta 1560
aattgaccaa cctaattgta caactacttt gaggtggcca atgtaaact aaaagcctta 1620
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tgcaagggct tgcattataa aaaaaaacaa aaaaaaaaaa aa 1722

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## (2) INFORMATION ON SEQ ID NO. 2:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1187 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

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cggtctgagg agggcgtctc ttggtgcacc caattgggag ctggaccccc totcagcaat 60
ggccaccggc cggctgcaca cgacttcccc ctggggcggc actccccagc aggactaccc 120
cgaccctggg tcttgaggaa gtgtgagca gcagggactg tcaccctgcc ctgccgcttc 180
ctcccggtt ccatccccac cgggggcccc attaccatc ctccctgcc gatcagatgc 240
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aggagcccaa gccaaagagg ggaagacgat cgtggccccg gaaaaggacc gccaccaca 360
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tgccaaccca cacaggtgag aaaccttacc actgtgactg ggacggctgt ggatggaaat 480
tcgcccgtc agatgaactg accaggcact accgtaaaca cacggggcac cgcccgttcc 540
agtgcacaaa atgcgaccga gcattttcca ggtcggacca cctgcctta cacatgaaga 600
ggcattttta aatcccagac agtggatatg acccacactg ccagaagaga attcagtatt 660
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(2) INFORMATION ON SEQ ID NO. 3:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1478 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

"EST" SEQUENCE

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

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 ggctacagag ctgcccgggc tggcacacga gcgcctcggc actaaccgag tgttcgagg 240  
 ggctgtgagg ggaggggccc gggcgccatt gctggcggtg ggagcgccgc ccggtctcag 300  
 cccgcccctcg gctgctctcc tccctccggc gggaggggcc gtagctcggg gccgtcgcca 360  
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 tattcttgga gaaacccgtg ctgtttactg taaccttttg cactcaaatt cttttatcag 720  
 gaataactac atagccacta ttacaaaagc cattggaacc tttttatttg gtgcagctgc 780  
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 agaaagaact tcttttaaag aaagaaaaga ggaggactct catacaactc tgcataaaac1260  
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 atgcacagtt gtgtgtaaca gagttacctt aactcgtg 1478

## (2) INFORMATION ON SEQ ID NO. 4:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 411 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

J05003-0495-557



## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

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gccacatttc cgggggttttg cgggccccgc gatgttttcc agagcttttc aagtgggaag 60
aggagagcga caacgtgaaa atgccccgtg ccggggcgtc caccggagtc ctgccagctg120
tccggcgctg ggggtggacgt ctgatttatg aagctcccca tccacctatc tgagtacctg180
acttctcagg actgacacct acagcatcag gtacacagct tctcctagca tgacttcgat240
ctgatcagca aacaagaaaa tttgtctccc gtagttctgg ggcgtgttca ccacctacaa300
ccacagagct gtcatggctg ccactctctac ttccatccct gtaatttcac agccccagtt360
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## (2) INFORMATION ON SEQ ID NO. 6:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3181 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

FBI LABORATORY

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

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 tcccttccct ccatagccac gctccaaacc ccagggtagc catggccggg taaagcaagg 180  
 gccatttaga ttaggaaggt ttttaagatc cgcaatgtgg agcagcagcc actgcacagg 240  
 aggaggtgac aaaccatttc caacagcaac acagccacta aaacacaaaa agggggattg 300  
 ggcggaaaagt gagagccagc agcaaaaaact acatttttgca acttggttgg gtggatctat 360  
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 ggtccagagt agtttctttc tgtctgcttt aaatggaaac agactcatat cacacttaca 480  
 attaaggtca agcccagaaa gtgataagtg caggaggagg aagtgcaggt ccattatgta 540  
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 gtgattgtct ttgaatctga atcagccagt ctcatatgct ccaaagtttc ggttccatg 660  
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 gtcagaaaaa ggaaaccaca gtgagcctga gagagacggc gatttttcgg ctgagaaggc 780  
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 gtcgaggtgt gcttcccaga ggagcagctc tcccaggca tttgccaagg gaggcggatt 1080  
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 ttcttttgaa cttgattgct tatggatcaa agaaattcag aacagcctgc ctgtccccc 1260  
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 catagcagct ttgtctctgt cacatcagca atttcagaac caaaaggagg gctctctgta 2340  
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 a

(i) SEQUENCE CHARACTERISTIC:

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) ANTI-SENSE: NO

(A) ORGANISM: HUMAN  
(C) ORGAN:

(A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

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## (2) INFORMATION ON SEQ ID NO. 8:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1702 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

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cagatagaga ggttcccttt tcaaatccca gtgccgctct gttctctttc cttccctctc 600
cactccctct cttcttcttc tgtagagatg caagaaattg ctgtcccata aaaatcataa 660
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ggattttggag ctccgaggca gtaataaactg aacaagcagc cctgtcccct aggctgcaga1020
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tgttcacctg gtggaacagt tcttgctctg cttcttaggc ttcattccag aaatccagcc1500
tctttctgga gaccccaaag ctggagggag atgggctttc ctctgggcct ctcttcctac1560

tttgccatcc aactgtctcc tggctaacc cagcaagaac caacaaatgg gtagggaagc1620
cccatctaata tggctttttt tcttcaatta tggacgtgca ttgttttggg tgggaacaaa1680
aggttttgga ggggagatgt gg
1702

```

"B3E3" 2002/09/20

(A) LENGTH: 2067 base pairs  
(B) TYPE: Nucleic acid  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN  
(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

gocgcaggct	cccgggtgttc	ccatttcgag	aggagctcct	ggctgctatt	gcaaatcacc	60
aagtccctcat	cattgaaaggc	gagacagggt	cagggaagac	caccagatc	ccgcagtatc	120
tctttgagga	gggttataca	aacaagggtg	tgaagattgc	ctgcacccaa	ccccggagag	180
tggctgccat	gagtgtggcc	gcccagtggt	cccgggagat	gggtgtgaag	cttgggaatg	240
aggttggcta	cagcatccgc	tttgaggact	gcacatcaga	gcgaactgtc	ctccgctaca	300
tgacagatgg	gatgcttctc	cgggagttcc	tctctgagcc	tgacctggcg	agttacagcg	360
tggtgatggt	ggatgaggca	cacgaaagga	cctacacac	agacattctc	tttggattga	420
tcaaggatgt	tgctcgcttc	cgacctgagc	tcaaggctct	ggtggcttca	gccacaatg	480
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ggtttccgtg	ggacattctc	tacaccaagg	ctccagaggc	tgactacttg	gaagcttgtg	600
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gctccaaaat	ccgggagctc	ctgggtgctgc	ccatttatgc	caatctgccc	tctgacatgc	780
aggcccgat	cttcacgccc	acaccacctg	gggcacgaaa	ggtggttgtg	gcaacgaaca	840
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gttcagagga	gatcctgaca	gtggctgcc	tgctctctgt	caacaactcc	atcttctacc	1380
gaccaaagga	caaggctcgtc	catgctgaca	atgccctgt	caacttcttt	ctccctggcg	1440
gtgaccacct	ggttctgtcta	aatgtttaca	cacagtgggc	tgagagtgg	tactcttccc	1500
agtggtgcta	tgagaacttt	gtacagttca	gatcgatgcg	ccgagcccg	gatgtgcggg	1560
aacagctgga	agggctcttg	gaacgtgtgg	aagttggtct	cagttcctgc	cagggggact	1620
atatccgtgt	acgcaaggcc	atcactgctg	gttactttta	ccacacggca	cggttgactc	1680
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tcatgagaca	ggtactggag	attgagagca	gttggcttct	ggaggtggct	cccattatt	1860
ataaggccaa	ggagctagaa	gatccccatg	ctaagaaaa	gccccaaaa	atagcaaaa	1920
cacgaaga	gctagggtaa	gagaaggagc	taaacagaac	ctgacacag	ctcgttttcc	1980
tctatacat	tatttaatac	ctattaataa	aaattatttt	tggaataaag	cttgtgggaa	2040
catttqqgat	ctagaaaaaa	aaaaaaaa				2067

## (2) INFORMATION ON SEQ ID NO. 12:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2548 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

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gccgcagccc tcattctgcca ccgcagtcctg gttggagctg ttgtcttcta tgctcagcga 60
ggcccgggaga gacccggggag agagctaggg cgagtcacac gcccgagctc gctgcccag 120
cccgcgttac gcacaaagcc gccgatcccc ggccctggggg gagcagagcg accaccgccc 180
gggagcagcg cggcgagacg caagggtgcg cctatgcccc cgcgccccca ccgcccccg 240
cgcgccagcc gaagcgcagc gagagaacgc gccaccgcgg ggcccgggtg cagctagcga 300
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aggcgttcgc gggccccctc ctgctgcccc ggcccggccc tcattggcgg catccgcaag 420
aagctgggtg tgggtgggga cggcgcgctg ggcaagacgt gcctgctgat cgtgttcagt 480
aaggacgagt tccccgaggt gtacgtgccc accgtcttcg agaactatgt ggccgacatt 540
gaggtggacg gcaagcaggt ggaggtggcg ctgtgggaca cggcgggcca ggaggactac 600
gacccgctgc ggccgctctc ctaccgggac accgacgtca ttctcatgtg cttctcggtg 660
gacagcccgg actcgttga gaacatcccc gagaagtggg tccccgaggt gaagcacttc 720
tgtcccaatg tgcccatcat cctgggtggc aacaaaaaag acctgcgcag gacgagcatg 780
tccgcacaga gctggcccgc atgaagcagg aaccctgtcg cacggatgac ggccgcgcca 840
tggccgtgcg catccaagcc taagactacc tcgagtgtc tgccaagacc aaggaaggcg 900
tgccgcaggt ctctgagacg gccacgcgc cgcgctgca gaagcgctac ggctccaga 960
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cggcacggct cccccctctg gaccagtccc ccgcgagccc ggagaagggg agaccctgt 1080
cccacaagga cccacccggc ctgcctggca tctgtctgct gacgcctctg gcttgccca 1140
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cacaggcctg ggctccccac tgagtgcaca gggctccctg agcatgcttt tctgaagagc 1260
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tgttgcctc tcaccagcgg gagcttgata tcccttgtct gtaacataga ccccggttac 1440
tgccggaggg gagggctgct ggggaggtat gggggatgtt atataaata agataaatt 1500
ttattttcgg agctaagatg gtgttattta aggggtgtga tgggtgagcg ctctggccca 1560

```

15673344 330004

(2) INFORMATION ON SEQ ID NO. 13:

(A) LENGTH: 1673 base pairs  
(B) TYPE: Nucleic acid  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(A) ORGANISM: HUMAN  
(C) ORGAN:

(A) LIBRARY: cDNA library



accaatgcac	atgtagtaat	caaatgtttg	gggctagata	ttatggtata	caaaaaacat	60
taaaatcatg	tggtttgcaa	gcaaagcaaa	catttttgcc	aatgtttgca	aattggccac	120
aaccacaaat	tcaagaaatt	ttttaaaaag	acaaaagcca	gcttacaaag	atttgaccaa	180
taaaacccct	cgagcccaca	gccttatcag	ctggggttga	gggaagactg	gtctaggtgc	240
tgtctctgaa	cttgggtctct	gagccatggc	ttcccataga	cactcaggctc	cctccagcta	300
caaggtgggc	accatggcgg	agaagtttga	ctgccactac	tgcagggatc	ccttgcaggg	360
gaagaagtat	gtgcaaaaag	atggccacca	ctgctgcctg	aaatgctttg	acaagttctg	420
tgccaacacc	tgtgtggaat	gccgcaagcc	catcggtgcg	gactccaagg	aggtgcacta	480
taagaaccgc	ttctgtgcatt	acacctgctt	cgcctgtgcc	aagtgctcttc	acccctttggc	540
caatgagacc	tttgtggcca	aggacacaaa	gatcttgtgc	aacaagtgca	ccactcggga	600
ggactccccc	aagtgcagg	ggtgcttcaa	ggccattgtg	gcaggagatc	aaaacgtgga	660
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caagtttgcc	aagcattgcg	tgaagtgcaa	caaggcoatc	acatctggag	gaatcactta	840
ccaggatcag	ccctggcatg	ccgattgctt	tgtgtgtgtt	acctgctcta	agaagctggc	900
tgggcagcgt	ttcacccgtg	tggaggacca	gtattactgc	gtggattgct	acaagaactt	960
tgtggccaag	aagtgtgctg	gatgcaagaa	ccccatcact	gggtttggta	aaggctccag	1020
tgtggtggcc	tatgaaggac	aatcctggca	cgactactgc	ttccactgca	aaaaatgctc	1080
cgtgaatctg	gccaacaagc	gctttgtttt	ccaccaggag	caagtgtatt	gtcccgactg	1140
tgccaaaaag	ctgtaaactg	acaggggctc	ctgtcctgta	aaatggcatt	tgaatctcgt	1200
tcttttgtgtc	cttactttct	gccctatacc	atcaataggg	gaagagtggg	ccttcccttc	1260
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agtgatcata	ttagcattta	gcaaaaagca	acctgcagc	aaagtgaatt	tctgtccggc	1380
tgcaatttaa	aaatgaaaac	ttaggtagat	tgactcttct	gcatgtttct	catagagcac	1440
aaaagtgcata	atcattttagc	cacttagtga	tgtaaagca	aagcatagga	gataaaaccc	1500
ccactgagat	gctctctcatg	cctcagctgg	gaccacccgt	gtagacacac	gacatgcaag	1560
agttgcagcg	gctgtctccaa	ctcactgctt	caccccgctt	ctgtggagcc	gggagaaggg	1620
acctactggt	accatggcat	ggggtttaact	ttcctcatca	ggactctggc	cct	1673

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1593 base pairs  
(B) TYPE: Nucleic acid  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN  
(C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

ggggccaggga	cgccgcgccg	cgcgagtggt	ctgccctgcg	cggggacact	cagagcccg	60
tgggcggggag	gaaggcgga	tgccccagac	ggtgatcctc	ccgggccctg	cgccctgggg	120
cttcagggtc	tcagggggca	tagacttcaa	ccagcctttg	gtcatcacca	ggattacacc	180
aggaagcaag	gcggcactgc	caacctgtgt	cctggagatg	tcatcctggc	tattgacggc	240
tttgggacag	agtccatgac	tcattgctgat	gcgcaggaca	ggattaaagc	agcagctcac	300
cagctgtgtc	tcaaaattga	caggggagaa	actcacttat	ggtctccaca	agtatctgaa	360
gatgggaaag	ccctactctt	caaaataaac	ttagaattcag	aaccacagga	attcaaaccc	420
atttgtaaccg	cgcacaadag	aagggccag	ccttttgttg	cagctgcaaa	cattgatgac	480
aaaagacagg	tagtgagcgc	ttcctataac	tgcgcaattg	ggctctattc	aactagcaat	540
atacaagatg	cgcttcacgg	acagctgcgg	ggctctattc	ctagctcacc	tcaaaacgag	600
cccacagcct	cggtgcccc	cgagtgcggc	gtgtaccgga	tgctccacga	caatcggaat	660
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ggtgctgtgg	tgaaggcgg	ggataagtac	cggcaccttg	agtgtctcgt	gtgtgccgac	900
tgcaacctca	acctcaagca	aaagggtac	ttcttcatag	aaggggagct	gtactgcgaa	960
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gagaagacat	tcattggctt	gggcagaagg	atttgtcaga	ttgtcaactc	caaatactaaa	1140
gtcaaggctt	tagaccttta	tctattgtt	tattgaggaa	aaggaatggg	aggcaaatgcl	1200
ctgctatgtg	aaaaaaaaacat	acacttagct	atgtttttgca	actottttttg	gggctagcaa	1260
taatgatatt	taaagcaata	atttttttgta	tgtcatactc	cacaattttac	atgtatatatta	1320
cagccatcaa	acacataaac	atcaagatat	ttgaaggact	ctaattgtct	ttccttgaca	1380
agttgatatt	gcaattgttg	taaatagcaa	ataacaatct	tgtattctaa	cataatctgc	1440
agttgtctgt	atgtgtttta	actattacag	tgcattgttag	ggagaaaattc	cctgaatttct	1500
tttagttttt	tattcaaaaa	attatgccac	tcgatgcaac	aaacataata	aatacataaaa	1560
aqattttaaaa	aataaaaaaaaa	aaaaaaaaaaa	aaa			1593

## (2) INFORMATION ON SEQ ID NO. 17:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1722 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

```

cattgtttgc caaaatccca ggcagcatgg acctcagtct tctctgggta cttctgcccc 60
tagtcacccat ggccctggggc cagtatggcg attatggata cccataccag cagtatcatg 120
actacagcga tgatgggtgg gtgaatttga accggcaagg cttcagctac cagtgtcccc 180
aggggcagggt gatagtggcc gtgaggagca tcttcagcaa gaagggaagg tctgacagac 240
aatggaacta cgccctgcatg cccacaccac agagccctgg ggaacccacg gagtgtctgt 300
gggaggagat caacagggtt ggcattggaat ggtaccagac gtgctccaac aatgggctgg 360
tggcaggatt ccagagccgc tacttcagat cagtgtctgga tcgggagtggt cagtgttact 420
gttgctcgta cagcaagagg tgcccatatt cctgtctggt aacaacagaa tatccaggct 480
actatggtga ggaaatggac atgatttctt acaattatga ttactatata cgaggagcaa 540
caaccacttt ctctgcagtg gaaagggatc gccagtggaa gttcataatg tgccggatga 600
ctgaatacga ctgtgaattt gcaaattgtt agatttgcca cataccaaat ctgggtgaaa 660
ggaaaggggc cggggacagg aggggtgtcca catatgttaa catcagttgg atctcctata 720
gaagtctctg ctgctctctt tcttctctcc tgagctggta actgcaatgc caacttcctg 780
ggcctttctg actagtatca cacttctaata aaatccaca attaaaccat gtttctcact 840
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gagatggcgc tatctttctt cctcctgtga tgcctgtctc ccaaccattt gtactcttca 1680
ttacaaaaaga aataaaaaata ttaacgttca ctatgctgaa aa 1722

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105573440.1722

(2) INFORMATION ON SEQ ID NO. 18:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1648 base pairs  
(B) TYPE: Nucleic acid  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN  
(C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(X1) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

tgaccaagaa	acagggccta	aggatcattt	tctcggtatgc	atcacggctc	atcttccggc	60
tcagttcctc	cagtggtgtg	cgggccaccc	tgcaagactgt	acgcagagag	ctacgagagg	120
gatcccagcg	gccatgacca	ggagccacag	gcagtgtctga	gccctctcat	agccatcgca	180
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atagaggaaa	gatcactcac	cagggccaaa	gagagtgtct	agcgggagat	gcttccactga	300
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tgcctccccc	atcccatccc	caacatccct	gtaccacctt	ctctcacatc	ttctaaagct	840
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tcagttgtta	agttgggaag	aagtttcttg	acaagactct	gcaattaaat	gcttaaaatt	1020
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tcttgagaag	gcaaaaagac	caccatgtgt	gagagctctt	tgacttggcc	aataggggcc	1140
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aggatgaaat	gctgtaaaag	taggaaatga	agtggaagct	ggaagaaaat	gtaattggtg	1260
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tcacagctgg	ctttccctcac	ttgggaaaag	ggtactgccg	gtctagcagc	ctcctctgtat	1380
ctcagccagc	acaccccagc	cgtgggacct	gtttgtgtct	gttttgcttc	cttgggaacg	1440
gcacagtcac	tcacctgtcc	atttgcggaa	atgacctggt	gcactttgac	tgtttaagcaa	1500
tgcgttattg	ctgtagtcaa	ggttagtgca	agcaaggaaa	cattcccagt	aaggtattttg	1560
tttccatttt	ctgtctgtgc	ttctgtcaga	aacttgctag	gacttttagtg	gccaataaaaa	1620

aagaaattcc taatttcaac cttaaaaa

1648

## (2) INFORMATION ON SEQ ID NO. 20:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1610 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

```

ggcgcgtgat tggacgcgtg gggcgaggcg gaggagagcc gtgcgcacgg cgtatgtggg 60
gccgtgtgca gaccgcgtg tggcgaggc aaggaccctc aaaataaaca gcctctacct 120
tgcgagccgt ctccccagg cctgcgtccg agtctccgcc gctgcgggcc cgctccgacg 180
cggaagatct gactgcagcc atgagcagca atgagtgtt caagtgtgga cgatctggcc 240
actgggcccg ggaatgtcct actggtggag gccgtggtcg tggaatgaga agccgtggca 300
gaggtttcca gtttgtttcc tgcgtctctc cagatatttg ttatcgctgt ggtgagtgctg 360
gtcatcttgc caaggattgt gatcttcagg aggatgcctg ctataactgc ggtagagggtg 420
gccacattgc caaggactgc aaggagccca agagagagcg agagcaatgc tgctacaact 480
gtggcaaacc aggccatctg gctcgtgact gcgaccatgc agatgagcag aaatgctatt 540
cttgttgaga attcggacac attcaaaaag actgcacca aagtgaagtgc tatagggtgtg 600
gtgaaactgg tcatgtagcc atcaactgca gcaagacaag tgaagtcaac tgttaccgct 660
gtggcgagtc agggcacctt gcacgggaat gcacaattga ggctacagcc taattatattt 720
cctttgtcgc cctcctttt tctgattgat ggttgtatta ttttctctga atcctcttca 780
ctggccaaaag gttggcagat agaggcaact ccagggccag tgagctttac ttgccgtgta 840
aaaggaggaa aggggtggaa aaaaaccgac tttctgcatt taactacaaa aaaagtttat 900
gtttagtttg gtagagggtg tatgtataat gctttgttaa agaaccctt ttccgtgcca 960
ctggtgaata gggattgatg aatgggaaga gttgagtcag accagtaagc ccgtcctggg 1020
ttccttgaac atgttcccat gtaggaggtg aaaccaattc tggaagtgtc tatgaacttc 1080
cataaataac ttttaatttta gtataatgat ggtcttgat tgtctgacct cagtagctat 1140
taaataacat caagtaacat ctgtatcagg ccctacatag aacatacagt tgagtgggag 1200
taaacaaaaa gataaacatg cgtgttaatg gctgttcgag agaaatcgga ataaaagcct 1260
aaacaggaac aacttcatca cagtgttgat gttggacaca tagatggtga tggcaaaggt 1320
ttagaacaca ttattttcaa agactaaatc taaaaccag agtaaacatc aatgctcaga 1380
gttagcataa tttggagcta ttcaggaatt gcagagaaat gcattttcac agaaatcaag 1440
atgttatattt tgtatactat atcacttaga caactgtgtt tcatttgctg taatcagttt 1500
ttaaaagtca gatggaaaga gcaactgaag tcctagaaaa tagaaatgta attttaaact 1560
attccaataa agctggagga ggaaggggaa aaaaaaaaaa aaaaaaaaaa 1610

```

## (2) INFORMATION ON SEQ ID NO. 21:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1108 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

```

ggagggcgcg ggagagtagg gtgctgtggt ctgagctaga ggggtgaagct ggcggaacagg 60
aggatggggcg tatgcagggtg atagactaga gaacaagacc tctgtctccg tagcatcctg 120
ggcgagcaggt ctgaatgccca gaatggataa ccgttttgct acagcatttg taattgcttg 180
tgtgcttagc ctcattttcca ccatctacat ggcagcctcc attggcacag acttctggta 240
tgaatatcga agtccagttc aagaaaattc cagtgatttg aataaaaagca tctgggatga 300
attcattagt gatgaggcag atgaaaagac ttataatgat gcactttttc gatacaatgg 360
cacagtggga ttgtggagac ggtgtatcac catacccaaa aacatgcatt ggtatagccc 420
accagaaaagg acagagtcac ttgatgtggt cacaaaatgt gtgagtttca cactaactga 480
gcagttcatg gagaaatttg ttgatcccgg aaaccacaat agcgggattg atctccttag 540
gacctatctt tggcgttgcc agttcctttt accttttggt agtttaggtt tgatgtgctt 600
tggggctttg atcggacttt gtgcttgcat ttgccgaagc ttatatccca ccattgccac 660
gggcattctc catctccttg caggctctgtg tacactgggc tcagtaagtt gttatgttgc 720
tggaattgaa ctactccacc agaaactaga gctccctgac aatgtatccg gtgaatttgg 780
atggctcttc tgccctggctt gtgtctctgc tcccttacag ttcatggctt ctgctctctt 840
catctgggct gctcacacca accggaaaga gtacacctta atgaaggcat atcgtgtggc 900
atgagcaaga aactgcctgc ttacaattg ccatttttat ttttttaaaa taatactgat 960
attttcccca cctctcaatt gttttaattt ttaaattggg ggatatacca ttttattatg 1020
gaaaatccat ttaattttata caccattcac cactaaatac ccccttaat accccctaaa 1080
atttaagggg ggttacctta aagcgatg

```

F099904334

## (2) INFORMATION ON SEQ ID NO. 22:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 675 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

```

agggaaagag agagagagggc ctagacgaac acaatcacat gttttctttg ctgttctctc 60
cgggatgggc ctgtttttggg gtttgggact ctgaaccgga ggggggttcc ttcgcttgac120
tttgatcctg gtccttaaat gcctttcccc actccctccc cgtgggttca ggggccaagc180
ggccctctct cagagcacgg gcagcaccgt ctctggacc cctgtgtgcc agcctctgca240
gacgcagctg gtgggagggg gcatggattt ggaggtggag aagtcactcc tggtcctcgg300
aggggggtgg ctgtgtgcct agttcagtg gactcgggga ttggtgaggg cggacagggt360
tctgaggcct ccctagcctt ctttgtaaat tcacacgaga tagtcaggg ctttccagcg420
cccagcttgg atgataatcc tctgttcccc cactctaagg cctccttgag atttcttttg480
ggtctaccac gtcctctgcc tgtctccagg tggtagagga gatgtggttc ctgtccctct540
cctgggtccc tagggggccc cagggccct ccctgtagct ttagctgacc ccattggtgt600
gggtgtgggg tctgtgcgcg tgctcaggta agcttggggg ctccaggtaa gcggtcccga660
agaacggggg gggag                                     675

```

## (2) INFORMATION ON SEQ ID NO. 23:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 350 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

105959 "HBB" 2353

agcagagcaa	ggttggttgc	gctcctcttg	cagaacctcg	gctctcagga	ggtccttgtt	60
ccagggaaca	gctgcttctc	tgggggctgg	ggcttctaac	ttccctggca	gccctctggc	120
actaaccag	ctggaaacca	ggggaacaaa	cggcctggag	tgccaaacct	ttcgtgtcta	180
ttttttccag	aaaaacgggg	gcaatggctg	ttgaggagcc	cattttggga	gaactggtgc	240
ctctaattgg	gcaaattgat	tctgcagggg	gctgcagttg	ggcagggaaa	attccttcaa	300
acaaggggtt	ccacccaaac	ccaggccccg	gcttcaaatg	gccagaaaaa		350

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(C) ORGAN:

(A) LIBRARY: cDNA library



## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

```

ccccccctcc tccggctttt ttttttttat ttaagaaaat ttattttctac ttctacagca 60
gaaatacggg aatggtacag gtttgggcaa atcatacttt atgaaatgga tcctcatacc120
acàtcccttt taatacaggc acgttataac ataattcctg gattttcaaa atccagccaa180
cacggatacc tctgctactc tgttttggcc ttcatagctg cttcctcttt cagacgagct240
ttctttttcta agttcaagct tgttaaagtc tctgtctctt gggcagcctt cttgccctca300
ataaccatga agatgcaccc taccaccgtc agggcaatca ttagatagct gatcttcaact360
cgcactctgt tctttgcagc atcaagcatc tccaacgaga cagtctcttg gatttcactct420
tccttttttga agcgacctga ccatatgagg atctttttct gccaatccgt aggtttgtgt480
aaaggcactc tgttgtaagt gcgggatgga gtcgcgggac tttcctgttg ttttgtgcaa540
aatccattta ttctcttcaa atcagagctt ctggtaagcc ttagagatga ggaaacatct600
ctttcacata acctaaaaca gcttcctgct gccaggcgca gaccgctgag gctccccatg660
gccacttgct actccgccga ccagcgaga acttcgccgg ggacggtggc gctggtgagc720
tcaatgtcac ccagcgttg agtggg 746

```

## (2) INFORMATION ON SEQ ID NO. 25:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 217 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

```

agtgtatggc agcaaatgag ggatcataac tctcagttta ttgatgatta ttcatacctca 60
gatggaggag tttatccgtc agccacttca gtttcgtctt aaaacaggag cccacaggac120
ccaaggaact attaaggagg accaggaacc taggtttttt ctttcaaaaa attggcccta180
gcccaataaa tgaaggaaaa aattaggcac cttttttt 217

```

"000000" 000000

## (2) INFORMATION ON SEQ ID NO. 26:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 392 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

```

gcg gatccgg cg tttctccac tgatcttttc caaggctgta cagacatggc ggcggctttt 60
cggaaggcgg ctaagtcccg gcagcgggaa cacagagagc gaagcagtga ctacogtaaa120
aaacaagaat acctcaaagc tcttcggaag aaggctcttg aaaaaaatcc agatgaattc180
tactacaaaa tgactcgggt taaactccag ggtggagtac atattattaa ggagactaag240
gaagaagtaa cccagaaca actaaagctg atgagaactt caggacgtca aatatatagg300
aagggaagag ggtgcagaag ctaagaaaat cgaagactaa aatcagggcc catctgcggg360
ttgcagggga ggcaggaaaa ggttggtttt tt                                     392

```

## (2) INFORMATION ON SEQ ID NO. 27:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1796 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

FBI/DOJ - 04/05/2000

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

cggctcgaac	gtattagttg	ttcttaattt	ttttccag	aaaatatgga	tcttttaaga	60
agaatttgag	aagcaaacaa	ttacatgtca	tgtcaagggg	gtagcagatt	ccatttcgtt	120
tcaatattgc	cacaataccc	agggattaat	gctgccacag	gggggcaatc	tttatttgtc	180
ttacttccta	ccccttccct	gttctgcctc	tttaactcag	ttaagttggt	ctggttgggg	240
cctggaanaa	aacccaaaga	aaacctgagt	ggacaggttc	atctctggaa	tgcagaaaaa	300
attttaaaag	ctagattttt	agaattattc	caactagcat	tctttccatt	gatttgaagg	360
ggaatttaac	tattataatc	ttcttgatcc	aaaactggat	attaagaact	ttccccttta	420
ctaagtttaa	gacttttgtc	atgtgggtgag	tcaaataaga	ccattttgat	tgtaaaccat	480
aaaatagttc	agcaagtagc	ccacagttct	ggcctaacag	cagacttgct	gttttcactt	540
ggtatcctgg	agttgggttg	ctaaccttaa	ttctatgat	gttttctaaa	atgaaacttg	600
ataaagtaga	ccaccagctg	caccgtgttt	tctgtaaaag	tattgttagt	aagtggccaa	660
gagacttgag	gaaaatacag	atcttttggt	taccttggtc	ttgttttaag	tcttaaaaaa	720
ttaaagataa	cattataatg	tagaatacag	atgggacata	gtccttgtaa	gcttcccttg	780
aaaattgttt	aaatattttag	gaagctttta	aaagacacta	aatttgtact	taaaagacac	840
taattgttac	taattgtaca	aaggtcaagc	caattttatg	aaacagtcct	acagagtaat	900
atatgtgatg	cagtgttaaga	aggaaaatac	tcctctctaa	cattatggta	ataacattta	960
gcctcttagg	agttggagca	gggggatggg	taattacaga	tttgacagct	atagaaagag	1020
tttcattttt	ttgtgacctc	acagagtcct	aaatttttat	ttcactacct	gctagagcct	1080
actgtgaaat	cactgctcca	tatttgccag	tggaggaaat	gggcatagag	tagagaatag	1140
cttcatatgt	ttacacgttt	gcatagacta	cacacatgtc	atgcgtttat	ggcaggtagc	1200
ttgtatttat	tccccaagt	ataaatgttg	aagtaggggt	ctcatcattc	ccatacacag	1260
aaacacaaaa	cactttgtatc	ataaaccttt	ttcttcagaa	gccaaactaa	cttcgagaat	1320
aatagagcca	ctggtttaat	gtttcctcaa	gatagggttt	agtgtaaagt	agtattctgt	1380
gtgttcgtag	aaatgattca	atacctgcag	ctgggtgaatt	aggaattgta	tttgttgcc	1440
tttttatatt	agatgaggtg	caaaaatttt	aatgctagtc	agtatgcacc	accacaggaa	1500
agttagatcc	cattagcact	tgaactaca	gctttgaaa	cttaggctaa	gttaatttgg	1560
atttgttact	tgattcacct	actgacctt	tcttttggtt	gaagtgccta	tcagcataat	1620
gagctaaagt	tcatgcatat	ttgtgaagaa	acacctttt	tgggtccctt	tgggacagag	1680
aggtactcct	tgatctttat	gaatgcaggg	ttactgtttt	gccttaattg	tttaactaat	1740
gtatgtgaaat	aaagcagaca	aagcttgaat	aaaaaaaaaa	aaaaaaaaaa	tcgacg	1796

(i) SEQUENCE CHARACTERISTIC:

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) ANTI-SENSE: NO

(A) ORGANISM: HUMAN  
(C) ORGAN:

(A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

```

gaagaaaaag aggagaaaa aggtagggag aaataaaggg aggagagaag cacagtgaag 60
gaaaaaaaaa gtcccttttc gacatcacat tcctgtgttt tccctcagcc tggaaaaacat 120
attaatccca gtgctttttac gcccggaaac aaagagacta agccagacta tgggggaaag 180
ggagataaga aggatcctgg aacttttaaag agggaaaagag tgagattcag aaatcgccag 240
gactggactt taagggacgt cctgtgtcag cacaagggac tggcacacac agacacacga 300
gaccgaggag aaactgcaga caaatggaga tacaaagact tagaaggaca gtccttttca 360
cctcatccta cttgtccaga aggtaaaaag acacagccag aaagaaaagg catcggtcca 420
gctctcagat caggacaggc tgtggatctg tggcgggtact ctgaaagctg gagctgcagc 480
acaccccttt tgtattgtct accctcggta aagagagaga gggctgggag gaaaagtagt 540
tcattctagga aactgtcctg ggaaccaaac ttctgatttc ttttgcaacc ctctgcattc 600
catctctatg agccaccatt ggattacaca atgacatgga gaatgggacc ccgttttact 660
atgctgttgg ccatgtggct agtgtgtgga tcagaacccc acccccatgc cactattaga 720
ggcagccacg gaggacggaa agtgcctttg gtttctccgg acagcagtag gccagctcgg 780
tttctgaggc acactgggag gtctcgcgga attgagagat ccactctgga ggaaccaaac 840
cttcagcctc tccagagaag gaggagtgtg cccgtgttga gactagctcg cccaacagag 900
ccgccagccc gctcggacat caatgggggc gccgtgagac ctgagcaaag accagcagcc 960
aggggctctc cgcgtgagat gatcagagat gaggggctct cagctcggtc aagaatgttg 1020
cgtttccctt cgggggtccag ctctcccaac atccttgcca gctttgcagg gaagaacaga 1080
gtatgggtca tctcagcccc tcatgcctcg gaaggctact accgcctcat gatgagcctg 1140
ctgaaggacg atgtgtactg tgagctggcg gagaggcaca tccaacagat tgtgctcttc 1200
caccaggcag gtgaggaagg aggcaagggt agaaggatca ccagcgaggg ccagatcctg 1260
gagcagcccc tggaccctag cctcatcctt aagctgatga gcttctgaa gctggagaag 1320
ggcaagtttg gcatgggtgt gctgaagaag acgctgcagg tggaggagcg ctatccatat 1380
cccgttaggc tggaaagccat gtaagaggtc atcgaccaag gcccatecg taggatcgag 1440
aagatcaggc agaagggtct tgtccagaaa tgtaaggcct ctggtgtaga gggccagggt 1500
gtggcgaggg ggaatgacgg tggaggggga gcaggaaggc caagcctggg cagcgagaag 1560
aagaaagagg acccaaggag agcacaagtc ccaccaacca gagagagtcg ggtgaaggct 1620
ctgagaaaaa tggccgccac tgcaccagct ttgccccaac ctccctcaac cccagagacc 1680
accacccctc ctctgcccc agccacaaca gtgactcggc ccacgtcccg ggcggtacac 1740
gttgctgcaa gacctatgac caccactgcc ttcccacca cgcagaggcc ctggaccccc 1800
tcacccctcc acaggcccc tacaaccaat gaggtgatca ctgccaggag accctcagtt 1860
tcagagaatc tttaccctcc atcccggaag gtagcagaca gggagaggcc acagacaacc 1920
aggaggccca gcaaggccac cagcttgagg agcttcacaa atgccccctc caccaccatc 1980
tcagaaccca gcacaagggc tgcgtgcccc ggcggtttcc gggacaaccg catggacagg 2040
cgggaaacat gccaccgaga cccaaatgtg gtgccaggtc ctcccaagcc agcaaaggag 2100
aaacctccca aaaagaaggc ccaggacaaa attcttagta atgagtatga ggagaagtat 2160
gacctcagcc ggccactgct ctctcagctg gaggacgagc tgcaggtggg gaatgttccc 2220
cttaaaaaag caaaggagt ctaaaaagcat gaaaagcttg agaaaccaga gaaggagaag 2280
aaaaaaaaa tgaagaatga gaacgcagac aagttactta agagtgaaga gcaaatgaag 2340

aagtctgaga aaaagagcaa gcaagagaaa gagaagagca agaagaaaaa aggaggtaaa 2400
acagaacagg atggctatca gaaaccacc aacaaacact tcacgcagag tcccaagaag 2460
tcagtggccg acctgctggg gtcccttgaa ggcaaacgaa gactccttct gatcactgct 2520
cccaaggctg agaacaatat gtatgtgcaa caacgtgatg aatatctgga aagtttctgc 2580
aagatggcta ccaggaaaat ctctgtgatc accatcttcg gccctgtcaa caacagcacc 2640
atgaaaatcg accactttca gctagataat gagaagocca tgcgagtggt ggatgatgaa 2700
gacttggtag accagcgtct catcagcgag ctgaggaaaag agtacggaat gacctacaat 2760
gacttcttca tgggtgctaac agatgtggat ctgagagtca agcaatacta tgaggtacca 2820
ataacaatga agtctgtgtt tgatctgata gatactttcc agtcccgaat caaagatatg 2880
gagaaccaga agaggggggt tttttttgaa gggggaaaaa cgcccccc 2927

```

## (2) INFORMATION ON SEQ ID NO. 30:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 743 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

```

tccgtggggc tttaaaaaat ggttgtgggt gtgtggggtt ttttgagggt ggagaggatg 60
tgtgaaaatc ttttccaggg aaatgggttc gctgcagagg taaggatgtg ttctgtatc120
gatctgcaga caccagaag gtgggtgcac actgcatgct tgggggtgcc aagggttcg180
agacctccaa catacttgtc tgaagctcgt gccgtggcc atggccctc tgccaagcct240
gtgtgcgatg ccttggtgc tttagtcaa gaagcctagg ctcaagaagca cagcagcgcc300
atctttccgt ttcaggggtt gtgatgaagg ccaaggaaaa acatttatct ttactat360
acctacgtat aaagttag ttcatgggt gtgcgaaaca cctttttat cacttttaa420
tttgacttt atttttttt ttccatgctt gttctctgga catttgggga tgtgagtgt480
agagctggtg agagagggt caggcgccct tcccaccgat ggtcctggcc tccacctgcc540
ctctcttccc tgctgatca cggctttcca atttgacctt cagagaactt aagtcaagga600
gagttgaaat tcacaggcca gggcacatct tttatttatt tcattatgtt ggccaacaga660
acttgattgt aaataataat aaagaaatct gttatatact tttcaaatc caaaaaaag720
tagggagggt aagaaaaagg gcg

```

## (2) INFORMATION ON SEQ ID NO. 31:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1667 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

```

agagccaata gcatgggggt tacaaggcaa agatagtcac tcattcaaca catattcata 60
gagctccttc tctgtgccag acactgttct ggaagatagc tagatgaaaa tctttgcact 120
cacagagctt acatgccagt gagtgaagat cgatgataaa taaagcaaat gcatcatatg 180
ttcacatctt ataagtatat gccaaaaaat gaagccggga aggaggacaa ggcccatggg 240
tgggtgttga gggtttttaa gtgtgggtcag gaaaggcccc actgataagg taacatttga 300
gcaagtctga aaaaggcaag gggatctttg gggctaactt cgggatccct gcactttatg 360
taagaatgta aacctggagt ctcatttaag aatgatcagc aatacgttta gaacatatga 420
actgaatgaa atggacatct tttcttaatt tacgtataaa tccatgatga tatacataaa 480
gttctgatgc attaataaaa gcagccaaat agggccaaag agaaaaataa caggactctg 540
tactggacct aactttatca ttaattaggt aatattttcc tcatttcttt actgctgcca 600
ttttcctcac cagtattcca gagatggta tagctcatta ctctaccacc aagaacctaa 660
aaggaattag aatacagcag aattggcctc agtgaagagc ttaaaattgt tctcctcgta 720
gaactggact attgatcatt accacgtgac gttgggtcta ttactttctg ttcccaatgt 780
ccttctagtg gtttgaataa gttaaaacat ccctaaaatc taaatcatat aatcagaatt 840
ctatagtgtc ccactctatc tgtaaagatc atttggaaga ctttagactc tattaatttt 900
aaaaggaata tttattagcc atatgcagaa tttctaataa tgatattgta cagcttctaa 960
ttcacttttc agatcagtggt ttgaaatggc aattatcagt gttggattta gttccaacta 1020
cttgatttac aaaaatgtac atttagagaa ggtaaaaaga aacagtgaga aatgtaaacal 1080
ttcaaaatga taattgaatc tctcagttgt ggaataaatt atcagagaca tgcaactgaal 1140
aatgtctcac ctttcattct tttttcttaa ttcataaagt tatcttgtag aatttgatgal 1200
gaccttccta gtcattctca actggggcgg tgctgtcacc gaatgggtgt tgagagtgtt 1260
ggggctaggg cacatttttg gttgtcacag caactggggg ggcattttgt gccagtgcc 1320
aggaatagta acattatgaa tgccagggac agtgtgctca gtaaaagtctt ccacccaaaal 1380
ggggcagggc acgggtgctc acgctgtaa tcccagcact ttgggaggcc aagggtgggcg 1440
gatcacctga tgtcaggggt tcgagaccag cctggccaac atggtgaaac cctgttgcta 1500
ctaaaaatac aaaaattggc tgggtgtgtt gtcacatgcc agtaacccca gctactaggg 1560
aggctgaggc aggagaatca cttgaacccg ggaggcagag gttgcagtga gctgagattg 1620
caccactaca ctccagcctg gatgacagag tgagacttca tctcaaa 1667

```

5573040.336634

## (2) INFORMATION ON SEQ ID NO. 32:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 249 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

```

cgtggtaggc acttcatcag tgtttactga ttgaaaacat tgttgactgt ggcttctatc 60
agagtgtcta ctttttacag ctctgacct acctcattta atttgctgct tttaatctac120
gggggctgag aatttgtgaa accagtgttg ttagaagtgt atataatctg aatcaataag180
ctctgaatgg gggacaagaa acgctcttat agcacaaaga tgcattggact tcatgacagc240
tcttttggt                                     249

```

## (2) INFORMATION ON SEQ ID NO. 33:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1246 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library



## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

```

aatggaaggt taattaccgg ggccacacct gagacggaaa aaaattggga aaacgaaact 60
aaaaatgggt ggggtgaatt tctacccaaa gtccagccgt ggtggctgca ctggcacaga 120
atactaaact gagtgtgact attttcaatg caacaaatga aaaaacaaaa tgtgcctgtt 180
taaagcactc agtagagggc tgatgaaact aatttttttt cctttaagac atgcactctt 240
gagtcctaca gtaactgagt gtttgtttag acagcacaag aaggggtgag agtgcgtctc 300
ctagccttaa tgtgggaggg tagtttcagt cactcatcgg ctttcattat tgtgcagaaa 360

tattagaaaa cctcattgat caattttatg tatttgaata tcagcaaatt gaaatttttc 420
ataattatca ttaatttgta accacatcca gtgtcatgct tactccttag agttcagatg 480
aattctttaa attaaaaaaa aactccatag tactaatttt gtttctttat atagtttgcg 540
tttgatatta gtgcttgcaa ttgtattaaa gtcaaaagct gattttttat gcatacacia 600
gaatgccact ttttctttta tttcatacca ataattttaa gattgatatg ctaaaaaaca 660
tttgccacagc actaaagcat gagctacttt catctaaacc tgtaaaaaata tgaaagattt 720
ttatatTTTT tcactgggaa gaaattcttc ctggatgaaa ttacaaatat gtgtagaata 780
tatttaataa aagacttata aaatacctaa ctacaggact taaaatatag attggcgcg 840
agtatataga acaatattcc atataaataa gtttagcctt tataaaaaatg aagttgcagg 900
ctgacattac attctgtact tactaagtgt caacagccct tacaaacatt aaatgtaaat 960
ggtttcaaat ggtcagcggt gttttaaagt aatcatgtta ttttattcat tgttaatgct 1020
ttgatgaaaa ggctttatat gcagtagatc tacgaaaata ttgttcatac tgatcagaat 1080
taaatttgta tagagcagag tttttaaagt aatgtaaata gcactaaacg ttttctttct 1140
gcaacctgta cttacagatt ctctctgtaa actaaataaa aaaaaaatga tagtgcaaaa 1200
aaaaaaaaaa aaaaaaagag acggagagag gagaaagagg gcgtgg 1246

```

## (2) INFORMATION ON SEQ ID NO. 34:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 215 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

```

gggaagcatt ttggatatga tgcaggaaat ctcttcctgg agtcaaaagt tcccaagagg 60
tgctgtatTT ttaagaaatg gagtttattt aaataatagt taagcttgtg cccatgttgg 120
ccgggcaact tttttcaatg gtgcttatta gaagaagtgt tttcatctgg tcaatttaag 180
gaaataaaac taggaaatgg agaggggggg agaga 215

```

## (2) INFORMATION ON SEQ ID NO. 35:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 734 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

```

gctgccgggg gcctgggggt cggcgtcggt ccccggggga tgtggagagc tggcagcatg 60
tcggccgagc tgggagtcgg gtgcgcattg cgggcgggtga acgagcgcgt gcagcaggct120
gtggcgcggc ggccgcggga tctcccagcc atccagcccc ggctagtggc ggtcagcaaa180
accaaacctg cagacatggt gatcgaggcc tatggacatg ggcagcgcac ttttggcgag240
aactacgttc aggaactgct agaaaaagca tcaaattcca aaattctgtc tttgtgtcct300
gagatcaaat ggcaactcat tggccacctc cagaaacaaa atgtcaacaa attgatggct360
gtccccaatc tcttcattgt ggaaacagtg gattctgtga agttggcaga caaagtgaac420
agttcctggc agagaaaagg ttctcctgaa aggttaaagg ttatggtcca gattaacacc480
agcggagaag agagtaaaca tggccttcca ccttcagaga ccatagccat cgtggagcac540
ataaacgcca agtgtcctaa cctggagttt gtggggctga tgaccatagg aagctttggg600
catgatctta gtcaaggacc aaatccagac ttccagctgt tattgtcgct cccggaagag660
actgtggtaa aaagctgaac atccctgctg aacaggttga gctgatcatg ggcattgtccg720
tctgtaaaact gcaa                                     734

```

## (2) INFORMATION ON SEQ ID NO. 36:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 314 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO



## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

gggggcgagg ggggagcaac agagcgggccg ggagtaaggc ggagtggagag gaggagcttg 60  
 atggaagcgt gcgagaagg gcgtaactga tttggaaacc agaggaaagg cgctgttttc 120  
 accgaattag aatcgcgagg aaatagagaa gagtttgttt gaaggtctcg cgagatcgag 180  
 tgagtacggc tgcgcaagtt ggagcgctct cgcgatagac acagcaacta ttcagctgag 240  
 aggggacggg agaggtggtg agcactctcg cgagatttga aggagcggcg gaggccagag 300  
 ggaggagagg accggaagtc cttcatctca agcatccaat gctgaaacgg gcctgatttt 360  
 ctctaccgga agcccttttc cagaggctgg gaacacggcc cacctagcag gaagtccac 420  
 ctcttgagc tccgccaccc ttccggaagt tttctgtca cctgtgttag gctccgtccc 480  
 ctttccgct tttatccccg taccagaaaa ggatacattt agtgcctccc acccagctcc 540  
 actaaacggc cttcccgctt cctgtggttg tggcgctgt gctgtgggga gggcccccga 600  
 ccgggggct cattcgagcg acctcgagc acaatgccag catggacttt gcagaccttc 660  
 cagctctgtt tggggctacc ttgagccagg agggcctcca ggggttcctt gtggaggctc 720  
 acccagacaa tgctgcagc cccattgccc caccaccccc agccccggtc aatgggtcag 780  
 tctttattgc gctgcttcga agattcgact gcaactttga cctcaaggtc cttaaagccc 840  
 agaaggctgg atatggtgcc gctgtagtac acaatgtgaa ttccaatgaa ctctgaaca 900  
 tgggtgtgaa tagtgaggaa atccagcagc agatctggat cccgtctgta tttattggg 960  
 agagaagctc cgagtacctg cgtgccctct ttgtctacga gaagggggct cgggtgcttc 1020  
 tggttcaga caataccttc cccttgggct attacctcat ccctttcaca gggattgtgg 1080  
 gactgctggt tttggccatg ggagcagtaa tgatagctcg ttgtatccag caccggaac 1140  
 ggctccagcg gaatcgactt accaaagagc aactgaaaca gattcctaca catgactatc 1200  
 agaagggaga ccagtatgat gtctgtgcca tttgcctgga tgaatatgag gatggggaca 1260  
 agctgcgggg actccctgt gctcatgcct accacagccg ctgctgggac ccctggctca 1320  
 ctgagaccgg gaagacctgc cccatttgca agcagcctgt tcatcggggg cctggggacg 1380  
 aagaccaaga ggaagaaact caagggcaag aggaggggtg tgaaggggag ccaagggacc 1440  
  
 accctgcctc agaaaggacc ccaacttttg gttctagccc cactcttccc acctcctttg 1500  
 gttccttagc ccagctccc cttgtttttc ctgggccttc aacagatccc ccactgtccc 1560  
 ctccctcttc cctgttatc ctggtctaat aacccccac acatacacct ctggtgacct 1620  
 atttgacag accgtcgtct tccctccagt cttctgaggg ataggggaca ttccatccca 1680  
 agcttctccc ttaccacac ctatcctttt gaggggcttt ggggtggggc tggggcaagc 1740  
 agagggactg ggtcttcaact tottgggcta ataaaattgt ttctttgtgg actaaaaaaa 1800  
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## (2) INFORMATION ON SEQ ID NO. 38:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1931 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

```

cagccgcgcg ccatccctct ttgtgtgctt tggaaagccg cggagctggt ggtggctaca 60
gttggtggtg ggggcttagg cgagggacgt taccgggaag ttgcaggcgg gaggactctt 120
ccccatccag tcacctgaca ggtcacaaac atgtcagaca aaagtgaatt aaaggctgag 180
ttggaacgta agaagcagcg actggcccaa atcagagagg aaaagaagag aaaagaagaa 240
gaaaggaaaa aaaaaaagaa agaccagaag aaggaagctg ttgctcctgt gcaagaagaa 300
tcagatcttg aaaaaaaaaa gagagaagct gaagcattgc ttcaaagcat ggggctaact 360
ccagaatccc ccattgtccc tctcctatg tctccatcct ccaaactctg gagcactcca 420
agtgaagctg gaagccaaga ctctggagat ggcgcctggt gatctagacg aggacctatt 480
aaacttggaa tggctaaaaa cagcaagtc gactttcttc ctcgagaaat tgtcacgtat 540
acaaaggaaa ctgagactcc agttatggct caacccaaag aagatgaaga ggaagatgat 600
gatgtagtgg ctctaaacc acctattgaa cctgaagaag agaaaacttt aaagaaagat 660
gaggaaaatg atagtaaagc tccccctcat gagctgactg aagaagaaaa gcaacaaatc 720
ttgactctg aggaattttt aagtttcttt gaccattcta caagaattgt agaaagagct 780
ctttctgagc agattaacat ctcttttgac tatagtggga gagatttgga agacaaagaa 840
ggagagattc aagcaggtgc taaactgtca ttaaactcgc aattttttga cgaacgttgg 900
tcaaagcatc ggggtggttag ttgtttggat tggatcctc agtatccgga gttactcgtg 960
gcttctata acaacaatga agatgcccct catgagcctg atggtgtggc ccttgatagg 1020
aatatgaaat acaaaaaaac taccacagag tatgtgtttc actgccagtc agctgtgatg 1080
cttgccacat ttgcaaaatt tcatccaaat ctgtgtgttg gtggtacata ttcaggccaa 1140
attgtgcttt gggataaccg tagcaataaa agaactccag tgcaaagaac tccactgtca 1200
gcagctgcac acacacaccc tgtatattgt gtaaagtgtt ttggaacaca aaatgctcac 1260
aatctgatta gcatctctac tgatggaaaa atttgttcat ggagtctgga catgctttcc 1320
catccacagg atagcatgga gttggttcat aaacagtcaa aagcagtagc tgtgacatct 1380
atgtccttcc ctgttgga tgtcaacaac tttgttgttg ggagtgaaga aggttctgtg 1440
tacacagcat gccgccatgg cagcaaagct ggaatcagtg agatgtttga ggggcacaa 1500

ggaccaatca ctggcatcca ttgtcatgca gctgttgagg cagtagactt ctcacatctt 1560
tttgtcactt catcgtttga ctggacagta aagcttttga caactaagaa taacaagcct 1620
ttgtattcat ttgaagataa tgcagactat gtttatgatg ttatgtggtc acctaccac 1680
ccagccctgt ttgctgtgtg ggatggcctg gggagatttg atttgtggaa tctcaataat 1740
gacacagagg taccactgc cagcatttct gtggagggtg atcctgctct taatcgtgtg 1800
agatggaccc attctggaag gggaggttgt tgtggcggga ttctgaagga caagttttgt 1860
tattttgcga tgttgggagg agcagtttgt tgggtccccc aatgatggat tggcgacggt 1920
tggcccgacc c
1931

```

## (2) INFORMATION ON SEQ ID NO. 39:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 294 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

```

agttaccatt gcctttttctg tctcgtgcog gtttttggtt gctgaaaacta gtccaaaaca 60
ggaaatttaa cagacagcca cagccaaaga gtgtcatgtg aattacaaga aatagagccc120
atthagggaa agatagaact agaaaggctt ttcattataa ttccatgttg aacaattgag180
tcatagcttc ttatctttgga ggaaggacac aattcaaagg ggcagtaagg attttgtaaa240
acgtggcacc cataatttac tatggagcaa gtgcccacat ctctaggaca ttaa      294

```

## (2) INFORMATION ON SEQ ID NO. 40:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 882 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 40:

```

tttttttttc tcattaacaa agcagtcagt tccctttatt tttaaaattt tatgtacaca 60
tatgaatgat ctgtataatg tacattcaat atagaaagct ttatatattt gatagtgtat120
agaacatttc acaattacac tcattctttt cataacatct tgacatccat ttttaaattt180
ttttgcacaa gctccttttc attcaatttg gtaaagccag ttatacatat taatgtgtac240
tgtgagcttt cagaaggtta atgattgagg atgccagtga aggggtgcagg gacaaaacct300
aatagtcttg gatggtgggg ggaggatggc cacgcagact tgatgcagga gagggaaata360
ttctttcctg gggaaaagtg acttagccca atttttgttg actgtagctc aaccctacag420
tcattgctagt tcaaaaaaaaa aattacaaaa actaggaaga aagttttgtc tttttgattc480
acagttttgt aaacagatat aaaggaacaa atgtgcttac atacaccaag aaaaaaaaaa540
ttcttggtga cccacttatg ttgatccaca gagtgtcttc ttataatgtg atacaattag600
gatcactgac tttttttcct aaaaatatat ttatagaaaa aggaataaca ctgtcatgaa660
accaggagaa aggcagtaag agtttgcttc aacgtatcag ctggagggaat gtggacttgg720
cactggcctt tcagcgttta ttgtctctcg tgaatatttc aagtctgata gccaaagtcg780
cctgcctcat ggtctacagg aggtggcagg ttagacatga ctgatgtaga tgtactgcgg840
taaggtagcc agcaactcca ggtcctgctt cagagagcta ca 882

```

(2) INFORMATION ON SEQ ID NO. 43:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 934 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

"PUBMED" 1994-1995

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

```

ctcgcgccgg acacagggag cagcgagcac gcgtttcccg caacccgata ccatcggaca 60
ggattttctcc gccctcagccc aacgggggagg gctagttgca catagtgtatt tagatgaaag120

agctattgaa gttttaaaag aattcaatga agacgggtgca ttggcagttc ttcaacagtt180
taaagacagt gatctctctc atgttcagaa caaaagtgcc tttttatgtg gagtcatgaa240
gacttacagg cagagagaaa aacaagggac caaagtagca gattctagta aaggaccaga300
tgaggcaaaa attaaggcac tcttggaag aacaggctac acacttgatg tgaccactgg360
acagaggaag tatggaggac cacctccaga ttccgtttat tcaggtcagc agccttctgt420
tggcactgag atattttgtgg gaaagatccc aagagatcta tttgaggatg aacttgttcc480
attatttgag aaagctggac ctatatggga tcttcgtcta atgatggatc cactcactgg540
tctcaataga ggttatgcgt ttgtcacttt ttgtacaaaa gaagcagctc aggaggctgt600
taaactgtat aataatcatg aaattcgttc tggaaaacat attggtgtct gcatctcagt660
tgccaacaat aggcctttttg tgggctctat tcctaagagt aaaaccaagg aacagattct720
tgaagaattt agcaaagtaa cagaggggtct tacagacgtc attttatacc accaaccgga780
tgacaagaaa aaaaacagag gcttttgctt tcttgaatat gaagatcaca aaacagctgc840
ccaggcaagg cgtaggttaa ttgagtggta aagtcaaggt ctgggggggaa tgttggaact900
gtttgaattg ggggtgttcc gcttaggaag gttc
934

```

## (2) INFORMATION ON SEQ ID NO. 44:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 231 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 44:

```

ctcgtgcggg tcaattatga gttcctttat ttatttggtga gaaagattag caagtatgac 60
gtatgcaagg aatagaagtt atgtaccgag tggttaaagg ttgggggggat atggagatgg120
atgagaggga gctgtctggg aaggctttgc ttcacttgga ttagagtagg gttgcgtgag180
gaaatagggtg tgtagaatga gaatgagggt catgacagcc tctacaaaa c
231

```



## (2) INFORMATION ON SEQ ID NO. 46:

- (i) SEQUENCE CHARACTERISTIC:  
    (A) LENGTH: 240 base pairs  
    (B) TYPE: Nucleic acid  
    (C) STRAND: individual  
    (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual  
                    ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:  
    (A) ORGANISM: HUMAN  
    (C) ORGAN:
- (vii) OTHER ORIGIN:  
    (A) LIBRARY: cDNA library
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 46:

cgatcacggtt ttccatgat gtcacgctc agggcgcttc aattatccct cccacaaaag 60  
ataggtggcg cgtgtttcag ggtctctcgt ctctctccta cagaaaagaa aaagaaaaaa120  
atgtcattag aagaggcgta acacgtcagt ccgtccccag gtttggtgtt cctggagtgg180  
ccgaaagaga tcagttctaa cctgctctgc aggaataacg gtcctgcctc ccgacactct240

## (2) INFORMATION ON SEQ ID NO. 47:

- (i) SEQUENCE CHARACTERISTIC:  
    (A) LENGTH: 228 base pairs  
    (B) TYPE: Nucleic acid  
    (C) STRAND: individual  
    (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual  
                    ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:  
    (A) ORGANISM: HUMAN  
    (C) ORGAN:
- (vii) OTHER ORIGIN:  
    (A) LIBRARY: cDNA library

09673644.13000

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 47:

```

agagcagatc agaggcaggg ggaaaaagcac gcagagggag gagctgaaga gctgagaccc 60
ggagccaggg acagcttaat gaagacaaac tgaaggggaa actgagatgc ttagaaagcc120
cagctataca actctaccca gaaatacttc ccttagggaa tgtaaaaagt actactggag180
atggaagagc agaaaaacag ctatgggcag aaggccaagg ggtgatag          228

```

## (2) INFORMATION ON SEQ ID NO. 48:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1229 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

"GSE" BASES

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

```

aaaaaaaaa aaaaaagagt taatctagga gataatgaat ggcctagtag tagataatat 60
atggccccc aagctcttga cttctgtcct tggggaaagc cattttgtta accacactag 120
tgagatttac atgatgctta atggagaaca gagaagatct tgttgcaaaa ggtgtattaa 180
atatttgtgc tgtttctgta tgagattgag aagcttttcc cacctctcac ccctatttcc 240
tataaggata tccagagaag ccaaaactgtt ctgtgggttt gggaatggtc atttcccggg 300
aaaatgcata tggatcgatg actaaacctg gcccttttct ctgggctgta gtgaagccgc 360
attttcaogc tggctggcag tgtgctgaga gcctcgaatg ctctgcggcg tagtgccctt 420
ctgccctgcc tgacgatgta tcgaaaagat gagagtgaag gagactttgt gcagcaggaa 480
acgggtaggg gaggtgttgg gcagttgtgg gaacttctga gactattaca gactggtaga 540
atöggtaaga actctgattt ggacttcgct ttggtggaac tgtgtgccta tacctgcctg 600
tgtgtgtgca agtgtgcagg ttcctttgta tgtatgtgta cgtgtgggaa cctgtgtttg 660
tcataatttt cttcatttca caaaggcttt ttttgaagca gtggcagtat gcctttgttt 720
caagaacaca tgaaattctt ttaacaccag attagtgtgt taccctaaat gaacggttct 780
agccctctat taagaaataa agggaccata agcatttttg ctgcttatgg ctgtgtgtta 840
ctacttacaa gactcttgaa aattatacag aactttgcct tcttttttta atgtcttcca 900
caatgtttgt actgattata accctgtttc ccctcagaga agagctatgg ctcagggatc 960
tgtgttgact ctggcattta gtggctttgt gaaggaaaga aaccattaaa tgacctgaca1020
aaaactgact catgtcttta aagtagttga agccactttt aggaatgtta ctctcggttg1080
cttttgtcta attctaattg gcttaaagcc aagaaaacca tagtataaat cttttttgtg1140
taccctatgg ctagtgtttt aaatgggcag ttccgttgtg gataaagtat ccagtcactt1200
caggtttccg tggaagggtt ttattggggg                                     1229

```

## (2) INFORMATION ON SEQ ID NO. 50:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 231 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

```

gaggccggga gtggaacccc ctcttttgag aaggttgccct gactcagaga cacagaaacg 60
ggtccaggga tggggagaga tgtggagtga gggaagggtt gcatttgaga aaggaagttc120
gagaacacac tgggacattg taacacattt gaaccatctt ctgatagaaa ggtgttggcc180
tcctaataat gggagggtcag ggccaggtcc tcgggcatag ggagagggtc c 231

```

## (2) INFORMATION ON SEQ ID NO. 51:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1340 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 51:

```

tttggcatca tttacaattt catagaatta ctgtgaaggc ctttctagtt gagatgttgg 60
ggtattttggg attctaattg ttaaccccag aagaaggtaa tttagcttgt atttatttaa 120
aaccatttta gccctttact tatatctgtt agaattccag tgatcatcct aataagggtat 180
atttcagaat aatttttttt tcttccagaa taacttagaa tcagatgcta taagggtccc 240
taggagcagt gtgaaatttc cgtaaagata aatttgaatg ttgtaaccaa gtttatatta 300
aaccaagagg ccatttccaa tatgattttt tgtttctttt taacttgtaa agtccctaag 360
agattacatg ctagggtctg agtcatttct attgtagata atgatggccc acacagtcac 420
cttcaactat ccacataagc taggctttcc gcttttgcca cggacagtgt gaccaagata 480
tttccagagt aaataaccca ccacaacott ggtaattcct cttttcttct taagctccag 540

gaagcgaaag cagaaggact cttttcagac tgccctctgt agcctacatt gcagctttcc 600
aaaacaggca gctagcactg ggaaagccca tgtggtgacc ccatattttt ctgaggttct 660
tcttttccat ggtgttactt tattatcaga aagtaaattc agaaaacagg tcttgccctt 720
agcagacaag aaccacacca gtttcttgta aaggtaacgg atacattggg attcaggagt 780
gacacagagg tccagcccca gaacttgtaa ggattttgtt tgaacactga gcagatgcct 840
cctccctgcc acccatcaca ctagttaggg ctggccatga attctatgcc agagtcactc 900
ctgcagctctg ctagggtatg gccttcttat cccactctcg cacacatccc agtctagtct 960
ttgccttcac agagtccctc ttgacacccc tgacttaatg atagttgctg ttttggagta 1020
gaattgatca ggtttaagtc atcctgctca ggttgggcat agtggctcat gcctgtaatc 1080
tcagcacttt ggaagccaa agtgggagga ttgcttgagc ccaggagttc caaacatcc 1140
tgggcaacag agggagacc ttgtctctac aagaaaaaaa aaaaaaaaaa aaagttaaaa 1200
aaacaattag ctggacctgg tggcgacac tcagtaggct gaggtgaaag gattccttta 1260
acatgggaga ctgaagatgc agtgagccat gaatcagcaa ctgcacacca gtatgagaga 1320
aaaagtggaa ccctatcaca

```

1340

F03312 "04052350"

## (2) INFORMATION ON SEQ ID NO. 52:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 226 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 52:

```
gccagatttc cggggttttg cgggccccgc gatgttttcc agaggttttc aagtgggaag 60
aggagagcga caaggtgaaa atgccccgtg ccggggcgctc cagcggagtc ctgccagctg120
tcgggcgggtg ggggtggacgt ctgatttatg aaggtgccca tccacctatc tgagtacctg180
acttgtgagg actgacaact acagcatcag gtacaaagtt gttctt      226
```

## (2) INFORMATION ON SEQ ID NO. 53:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 611 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 53:

```

gcagctgcag cggcagcagc ggcagcagag gcagcagcag tagccaccac tccgccgagg 60
ccgcaacccc ggctcggcct ccccaggccc cgcgctgcc gcagtcattg ctgctgatgg120
ggtggacgaa cgctcgccctc tgctgtcagc atcccactcc ggaaatgtca ctcccaccgc180
cccaccgtac ttgcaagaaa gcagccccag agcggagtcc cacctccata tacagccatt240
gccagtccag acgccagtgg tattccagta ataaactgcc gtgtgtgcca atcactaatc300
aatttgatg gcaagcttca ccagcatgtg gttaagtga cagtttgcaa tgaagctacg360
ccaatcaaaa acccccacac aggcaagaaa tatgttagat gcccttgtaa ttgtcttctc420
atgtgtaagg acacatctcg gcgaatagga tgcccaagac ccaactgtag acggataatt480
aaccttgagg cagtaatgct tatttctgaa ggaacaacca gctcagcctg cattgcccac540
tcccacccag aagggtacaa gggctgtgtg ttggggcacg gttggggaac acattccctt600
tgggatggga c

```

611

## (2) INFORMATION ON SEQ ID NO. 54:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 689 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 54:

```

gccgaccgga cgcagggggc tggcgggaac gtgaagctcc gcggtgectg atggggccgt 60
tgggcggccg gtagctgttg ctgttggggg accccctcat tccctgccgt gccgtccctg120
ctgcctcatg ggggccatcg gagttcacct gggctgcacc tcagcctgtg tggccgtctal80
taaggatggc cgggctggtg tggttgcaaa tgatgccggt gaccgagtta ctccagctgt240
tggtgcttac tcagaaaatg aagagattgt tggattggca gcaaaacaaa gtagaataag300
aaatatttca aatacagtaa tgaaagttaa gcagatccctg ggcagaagct ccagtgatcc360
acaagctcag aaatacatcg cggaaagtaa atgttttagtc attgaaaaaa atgggaaatt420
acgatatgaa atagatactg gagaagaaac aaaatttgtt aaccacagaag atgttgccag480
actgatattt agtaaaatga aagaaacggc acattctgta ttgggctcag atgcaaatga540
tgtagttatt actgtcccgt ttgattttgg agaaaagcaa aaaaatgctc ttggagaagc600
agctagagct gctggattta atgttttgcg attaattcac gaaccgtctg cagctcttct660
tgcttatgga gttggacaag actccccta

```

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## (2) INFORMATION ON SEQ ID NO. 55:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 560 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 55:

```

agaaaatgga cgctgacatc aatgtcacaa aagcggatgt tgaaaaggcc cgacaacaag 60
ctcaaatacg tcaccaaagt gcagaggaca gcaaagcaga ttactcatcc attctccagal20
aattcaacca tgagcagcat gaattattacc atactcacat cccaacatc ttccagaaaa180
tacaagagag cggaggaaaag gaggattgtg agaattggag agtccatgaa gacatatgca240
gaggttgatc ggcaggtgat cccaatcatt gggaagtgcc tggatggaat agtaaaagca300
gccgaatcaa ttgatcagaa aaatgattca cagctggtta tagaagctta taaatcaggg360
tttgagcctc ctggagacat tgaatttgag gattacactc agccaatgaa gcgcactgtg420
tcagataaca gcctttcaaa ttccagagga gaaggcaaac cagacctcaa atttggtggc480
aaatccaaaag gaaagtatat gccgttcac aaaaaaata agcttatgtc cttttaacg540
ggggggcccat tcagcttcag                                     560

```

## (2) INFORMATION ON SEQ ID NO. 56:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 851 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(A) ORGANISM: HUMAN  
(C) ORGAN:

(A) LIBRARY: cDNA library

gaagaagagt	aagaaggaca	agaaggccaa	agctggctctg	gagagcgggg	ccgagcctgg	60
agatggggac	agtgatacca	ccagcaaaag	aggtagaatt	ggtttctgag	tagtgaaggc	120
cacttgaagc	tggaggagaa	actaaagcct	tattgagaaa	acatgttata	gatccttttg	180
ttgctgagag	agtggaacat	aggtcctaga	cagggtgaag	agttctggca	catttttagct	240
gctactttga	gacctcggtg	atgttacctg	gtgtggtcac	cccatcttgt	cctgttttaa	300
ggatatgggt	ggtgaaagat	gaaagaggca	gagtttatcc	caatgacctc	tctgtttcag	360
ttgggaagcc	tcaccttcag	accagtaaac	gtgccgcagc	tgtctgctag	tggttgtctt	420
aacatcgtag	tcctagtttg	catcttttaa	atccctcttg	tttaaaaggt	ttgtaaaaca	480
aaaaacaaaa	actaagtctg	ctcagtgaaa	tgctgtagaa	ccctaaataa	gtggtagaag	540
agtgtcactg	aattttgtct	ctgaattcag	tataactgag	ttttgtccat	gctgggtgtc	600
gggttatagg	cctgatgggc	ctggtagttt	tccatcttgt	tctggcctag	aggtcagtc	660
tttgcacttc	ctcaaagcct	gtgtacagtg	ctcacctaaa	tccatctgac	tacttgttcc	720
tgtgccctct	tgttttaggc	ctcgtttact	tttaaaaaat	gaaattgttc	attgctggga	780
gaagaatgct	gtaatttttc	cttattaaag	tcaacttgtt	aagtttttaa	aaaaaaaaaa	840
aaaaaaaaaa	a					851

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 1354 base pairs  
(B) TYPE: Nucleic acid  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing



(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 57:

```

cttaccaaca gcccttctgc taagttctgt tttttggata tttatgactt ggttcattctt 60
atTTTTTtcoct gatttagcag gagccctttt ctatttccagt ttcattttca gcatagtagc 120
ctttctatac tttttctata agacttgggc aactgatoca ggcttcacta aggcttctga 180
agaagaaaaag aaagtgaata tcatcacctt tgcagaaact ggctctctgg acttcagaac 240
atTTTgtaca tcatgtctta taaggaaaggc attaagggtca ctccactgcc atgtatgcaa 300
ctgctgtgtg gctcgatatg atcaaacctg cctgtggact ggaagggtgca taggttttgg 360
caaccatcac tattacatat tcttcttgtt tttcctttcc atggtatgtg gctggattat 420
atatggatct ttcattctatt tgtccagtca ttgtgccaca acattcaaag aagatggatt 480
atggacttac ctcaatcaga ttgtggcctg ttcccttggg gttttatata tcttgatgct 540
agcaactttc catttctcat ggtcaacatt tttattatta aatcaactct ttcagattgc 600
ctttctgggc ctgacctccc atgagagaat cagcctgcag aagcagagca agcatatgaa 660
acagacgttg tccctcagga agacaccata caatcttggg tteatgcaga acctggcaga 720
tttctttcag tgtggctgct ttggcttggg gaagccctgt gtggttagatt ggacatcaca 780
gtacaccatg gtctttcacc cagccaggga gaaggttctt cgctcagtat gaagaaaagc 840
aaccctaaac tctcaatctg atttgttttt gtttatgtcg atgcctgta gtttgaaagt 900
gaagtaaaaga tttagaatto acctaaagtc aaaggaaaac acgtgggttt taaagccatt 960
aggtaaaaaa agttctcaat aaaggcatta caattttttt ggttttagaaa gatggacttt 1020
tttgataaat cttggcagac atctaaaaaa aaaaccatat ttttcacaag aaaatgcaag 1080
ttactttttt tggaaataat actcactgat tatggataaa atggaatatt ttcagatact 1140
atattggctg tttcaaaaata gtactattct ttaaacttgt aatttttgct aagttatttg 1200
tctttgttgt atctataaat atgtaaaaaa tatttaaata gatgtacctg ttttgctttt 1260
acacttaata aaaaattttt ttttgtaaaa ggaaaaaaa aagaagagga aaaagaagag 1320
aaaggagagg ggaagaaaga ggagaaggca agga 1354

```

## (2) INFORMATION ON SEQ ID NO. 58:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 268 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 58:

```

cgtgatctct cctcagtaaa accaagggtgc atttttcttg acccacctat cttggggggtg 60
attaggagta gaggggttgta aatacttaaa atttttttcc ttcttgatat aattattgat120
ctccttctag aagtcctgtc gtctttgctg gagaattttt atttaagcat ccttttgtag180
aagaatctct aatgtccttt ttctatccag atctacactt gatgaatcct aaagctattt240

ctacacagtt cctttattca gttttccc                268

```

## (2) INFORMATION ON SEQ ID NO. 59:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 752 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(A) LIBRARY: cDNA library

tgacaaaaga	aatggaataa	tttcaaaaaa	gttaagtcct	gagaagacaa	ccttgaaatc	60
tatttttgaaa	agaaaaggca	ccagtgatat	cagtgatgaa	tctgatgaca	ttgaaatttc	120
ttccaagtca	agagtaagaa	agagagctag	ttcattgagg	tttaagagaa	taaaagaaac	180
caaaaaagaa	cttcacaatt	ctcccaaaac	aatgaacaaa	acaaaccaag	tgtatgcagc	240
aaatgaggat	cataactctc	agttttattga	tgattattca	tcctcagatg	agagtttatc	300
cgtcagccac	ttcagttttc	ctaaacagag	ccacagacca	agaactataa	gagacagaaa	360
tagtttttct	tcaaaattgc	ctagccataa	taagaaaaat	agcactttta	ttccaagaaa	420
accaatgaaa	tgttc aaatg	aggaaaagttg	ttaatcaaga	gcagtcgtat	gaatcaatgg	480
ataaaattttt	agatggcggt	caggaagtgg	cttatattca	ctcaaaccag	aatgtaattg	540
gatcgagcaa	agctgaaaat	cacatgagcc	gatgggcagc	acatgacgta	tttgagttga	600
agcagttttc	acagctgaca	gctaacatag	ctgttttgag	ttctaagaca	tataaagaaa	660
aagtgtatgc	agatacattg	ccacacacaa	agaaaggcca	gcaaccgagt	gaaggcagca	720
tttcacttcc	tctttacatt	tcaaatcctg	ta			752

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1389 base pairs  
(B) TYPE: Nucleic acid  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN  
(C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 60:

```

gaactccaag ttagtggatt gcagaatgga aacttggtt ttgcggcact gggtagagttt 60
tagtttgtgt gtgtcttgct ggggggtggt gatgattgtc tcagcactca cgcactgcac 120
aagatggcag caggatacag cactgcacaa gatggcagct cctctgcagc ttctctctca 180
gctccctcc ttgcacccc acaggttttg cttgtggtt ttgtcatcag taacctactg 240
cctgagatca tgatctctta aaagatgaga ctctcggaag ggtagattgt atgcgtcagt 300
gagccttcta tcacctctg gaacaaagtc acttgaaatc tcttgatgag attaaggagt 360
ttagtgttac taagaaaatc tgctttgggc cgcagcagtg ctgggtgttc tcagacctga 420
ctgaggaagt tagctgcggg ctgcccgtg ggctgggtgct tcaggaggaa tccagagaag 480
tgttcagatg ccccccttg gctcctttct tatcttaatc agctctttaa atagctgccc 540
atctcctgtg attgcacaac caagcacttt gacatttgca ccttaggaga ggcagatgtt 600
aaaatggaat ccaaagacca cctagggcgg ggctgggtgg gagatgggag ggccaactgc 660
gagctgctcc acttctcagc tctccctgc cctgcagccc tgggccagac aaggccagaa 720
ggtttcaggg gcatttgaca tccccctctg gttctcacca ggaaaacatc caaagctttg 780
gaggaacacg gccctgccc tggtcctta aatgcccgct ctctttgtaa actgatattc 840
agccagcaat gcctaagact ttgttaagat catttctact gcttttcttt ctgcttcaaa 900
cacacagttc gtctctgagg aaagtaaaat aaatggaata agagtaaaat gggtaaggag 960
atatccaaag ctaccagtc ccttgacca gcacagttgg ccgaccctg tcactccctg 1020
gctgtcgtg cttctctgtg ctactgaag ggtgagccag gccagtgtt cccagcccc 1080
tgggcctgg cactacacag tggaaaacag acaagcggcc ccttcccaa atccaagag 1140
tgtcttgctg cttggtgggt gctcatcgca atgttctgaa ggctccaggg ccactttgtt 1200
tgtaagtatg atctgggcct caaaatacca tagtagctgc ttgataaaat tctaaaaata 1260
tctggttctc tattatgtaa acactattac agtcaccagt gtgtgaagac tcttgagtct 1320
ggttctcata tcagagtcac ctttttctt cctgtggaat aaaatgcctt gtggacttcc 1380
caaaaaaaaa

```

## (2) INFORMATION ON SEQ ID NO. 61:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 726 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 61:

```

cgtatctgtc cggacggaag caggaagcgg gagcgtagg gccacgcctg cggcgctgct 60
ggttgaggct gtgtgggtgg gggacggggc gaggcgatgg cggagaagtt tgaccacctal20
gaggagcacc tggagaagtt cgtggagaac attcggcagc tcggcatcat cgtcagtgac180
ttccagccca gcagccaggc cgggctcaac caaaagctga attttattgt tactggctta240
caggatattg acaagtgcag acagcagctt catgatatta ctgtaccggtt agaagttttt300
gaatatatag atcaaggctg aaatccccag ctctacacca aagagtgcct ggagagggct360
ctagctaaaa atgagcaagt taaaggcaag atcgacacca tgaagaaatt taaaagcctg420
ttgattcaag aacttttctaa agtattttccg gaagacatgg ctaagtatcg aagcatccgg480
ggggaggatc acccgcttc ttaaccagct caccctccct gtgtgaagat cccctgggac540
tgcatgctgg cgtgaggctg ggactgcgag tgctgacgcc accttctgc tgaggtggga600
ctgggcccctg gacacaccoc tcagcccctc tgctctcatt gtttggcctc atgggaccga660
ggggctggag gagaggcgga gtgtgcccaa gggttcaaga ggttggttgg ggtgaaatgg720
gtttgt
726

```

## (2) INFORMATION ON SEQ ID NO. 62:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 681 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 62:

```

ggctgagaaa aatgggggga gacataacac ccacgaatga aaatacagat ttaagagaag 60
gaaccagtaa agtaggagac agatgtgaag gaaatggaaa tgaggcaaga ggacattgga120
agagagaagt ttgtgttccc ggagccagggt ctggagcatc agtgtgaggg agttcaggta180
ggctggggcct gtgcctctag gtagggacaa gggaggctgg gtagccaggg ctgggtgctta240
aaacccctga ggccatgagc tcattggctg cctttgtagc atcctgtctt cttctgtgct300
gcctggtttg atctcatctc acctggatcc aaagggttaag gtgggcatgg gtcttggggcc360
tgacacccac caaggatgac ctgtggactg ccacgggatg ctgaacaggg agatgaaagg420
aggtcctctt accatacccc tctgccaaac cccagtagg ccactgttct gactttgttt480
ccagaatata cagaaatcca aaggggctgt tgctgaacag tctgcaggac cagtgcagc540
acctacctgt tgtcccaagg catacaaagg aggcctcaac gctcatgctt ctctaataca600
gccctaccaa gacagacaga aaaggaaggg gtagaggaga aggttgaagc tgtggagtta660
gactctgctt catctctgaa g
681

```

## (2) INFORMATION ON SEQ ID NO. 63:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1116 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 63:

```

gggccacact gagcagattc tttggtagaa ttttcaactt gagactaaca caagtatttc 60
cttttctgtt cagttctcca aatgacaaga agtctttttg ctcaattgaa ggggaatgga 120
atggtgtgat gtatgcaaaa tatgcaacag gggaaaatac agtctttgta gataccaaga 180
agttgcctat aatcaagaag aaagtggaga agttggaaga tcagaacgag tatgaatccc 240
gcagcctttg gaaggatgtc actttcaact taaaaatcag agacattgat gcagcaactg 300
aagcaaagca caggcttgaa gaaagacaaa gagcagaagc ccgagaaagg aaggagaagg 360
aaattcagtg ggagacaagg ttatttcatg aagatggaga atgctgggtt tatgatgaac 420
cattactgaa acgtcttggt gctgccaaagc attagggttg aagatgcaaa gtttatacct 480
gatgatcagg gcagtaggca taattcagca acaaacaatc ttctttggg agaaacctgt 540
tcattccaat cttctaatta cagtggttcc tatctcaggg atactggact ttctgacgca 600
gatgaacaat taaggggaaa agcttccctt ttccctctgt ggcagttacg attttgactt 660
cagtcctgag aaaaacttca ggttttgaaa atcagatgat gtcttctcct tttccaaaca 720
ccacacgttg aaagcattta taaatccaag tctgaaactc tgcgctctag tactgctgtt 780
aagatacaca acttgtttct tagttcatat aatctcggg acacacatac gtatacacac 840
acatacatat atataaatat acctgatgcc agattttttt cataaatatt ctgcctactg 900
taaatatggg ttctctgag ttgttttaga aaattagcgc aatgtattaa aatcaagtgt 960
taggaaatth catggtctta cctacaataa cttttatttt ggaattgaac tattattaaa1020
ttgtatctaa tcttgaata cagtttaatt aattattctt agtgcttaag gcttcataaa1080
gtaatttttc caaccttttt tttaaaaaaa aaaaaa 1116

```

## (2) INFORMATION ON SEQ ID NO. 65:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 806 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:  
 (A) ORGANISM: HUMAN  
 (C) ORGAN:
- (vii) OTHER ORIGIN:  
 (A) LIBRARY: cDNA library
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 65:

```

tccaagggct ctttagtcct tcctaagccc cacagtactt tcccgtagtc ctgagggttg 60
ggacctcctg gggttcttac cttccctccc cattgctgag acagtctgag aagaggctta120
ggaatttgtc tgtgggagtt tattcatctg tctctcctat ttacctctcc caaaccaggal80
tttccacttc tcaaacctgc tgtgatctca caactggagg gaggaagtga gctgggggggc240
tcctctccac tggctgcagg aacaggcctc cagggctccc agactgatat tcagactgac300
aatgatttga caaaggaaat gtatgaagga aaagagaatg tatcatttga acttcaaaga360
gacttttccc aggaacacaga cttttcagaa gcctctcttc tagagaaaca acaggaagtc420
cactcagcag gaaatataaa gaaggagaag agcaacacca ttgatggaac agtgaaagat480
gagacaagcc ccgtggagga gtgttttttt agtcaaagt tcaaactcata tcagtgtcat540
accatcactg gagagcagcc ctctgggtgt acaggattgg ggaaatccat cagctttgat600
acaaaactcg tgaagcatga aataattaat totgaggaaa gacctttcaa atgtgaagaa660
ttagtagagc cttttagggtg tgactctcaa cttattcaac catcaagaga acaacactga720
ggaaaagcct tatcagtgtt cggagtgtgg caaagctttc agcattaatg agaaattaat780
ttggcatcag agacttcaca gtggggg
806

```

(2) INFORMATION ON SEQ ID NO. 67:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 226 base pairs  
 (B) TYPE: Nucleic acid  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:  
 (A) ORGANISM: HUMAN  
 (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 67:

```
gcggatccgg cgttctgcac tgatcttttc caaggggtga cagagatggc ggcggggttt 60
cggaaggcgg gtaagtcccg gcagcgggaa cacagagagc gaagccagtg actaccgtaa120
aaaacaaggt acctcaaagg tggtcggaag aagggtgttg aaaaaaatcc agtgagttct180
actacaaaat gactcgggtt aaactccagg gtgggttaca aattat 226
```

(2) INFORMATION ON SEQ ID NO. 69:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 2042 base pairs

(B) TYPE: Nucleic acid

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

ESTs by assembling and editing



## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 69:

gcagccgtcg ccttcgggagc gaagggtacc agcccggcag aagctcggag ctctcggggg 60  
atcgaggagg caggcccgcg ggcgacggg cgagcgggcc gggagccgga gggcgagg 120  
agccggcagc agcgcgcgcg cgggctccag gcgaggcggt cgacgctcct gaaaacttgc 180  
gcgcgcgctc gcgccactgc gcccgagcg atgaagatgg tcgcgccttg gacgcggttc 240  
tactccaaca gctgctgctt gtgctgccat gtccgcaccg gcaccatcct gctcggcgctc 300  
tggtatctga tcatcaatgc tgtggtactg ttgattttat tgagtgcctt ggctgatccg 360  
gatcagtata acttttcaag ttctgaactg ggaggtgact ttgagttcat ggatgatgcc 420  
aacatgtgca ttgccattgc gatttctctt ctcatgatcc tgatatgtgc tatggctact 480  
taoggagcgt acaagcaacg cgcagctgga tcatccatt cttctgttac cagatctttg 540  
aacttgcctt gaacatgttg gttgcaatca ctgtgcttat ttatccaaac tccattcagg 600  
aatacatacg gcaactgcct cctaattttc cctacagaga tgatgtcatg tcagtgaatc 660  
ctacctgttt ggtccttatt attcttctgt ttattagcat tatcttgact ttttaagggtt 720  
acttgattag ctgtgttttg aactgctacc gatacatcaa tggtaggaac tctctgatg 780  
tcctggttta tgttaccagc aatgacacta cgggtgctgt acccccgat gatgatgcca 840  
ctgtgaatgg tgctgccaag gagccacgc cacttacgt gtctgcctaa gccttcaagt 900  
gggcggagtg agggcagcag cttgactttg cagacatctg agcaatagtt ctgttatttc 960  
acttttgcca tgagcctctc tgagcttggt tggctgtaa atgctacttt ttaaaattta 1020  
gatgttagat tgaanaactg agtttttaac atatgctttg ctagaacact gtgatagatt 1080  
aactgtagaa ttcttctgt acgattgggg atataacggg cttcactaac cttccctagg 1140  
cattgaaact tccccaaat ctgatggacc tagaagtctg cttttgtacc tgctgggccc 1200  
caaagtggg catttttctc tctgttccct ctcttttgaa aatgtaaaat aaaacccaaa 1260  
atagacaact ttttcttcag ccattccagc atagagaaca aaaccttatg gaaacaggaa 1320  
tgtcaattgt gtaatcattg ttctaattag gtaaatagaa gtccttatgt atgtgttacal 1380  
agaatttccc ccacaacatc ctttatgact gaagttcaat gacagtttgt gtttggtggt 1440  
aaaggatttt ctccatggcc tgaattaaga ccattagaaa gcaccaggcc gtgggagcag 1500  
tgaccatctg ctgactgttc ttgtggtatc tgtgtccagg gacatggggg gacatgcctc 1560

gatatgtgta gaggggtggaa tggatgtgtt tggcgctgca tgggatctgg tgcccctctt 1620  
ctcctggatt cacatcccca cccaggggcc gcttttacta agtgttctgc cctagattgg 1680  
ttcaaggagg tcatccaact gactttatca agtggaattg ggatatattt gatatacttc 1740  
tgccatacaa catggaaaag ggttttcttt tccctgcaag ctacatccta ctgctttgaa 1800  
cttccaagta tgtctagtca ccttttaaaa tgtaaacatt ttcagaaaaa tgaggattgc 1860  
cttcccttgta tgcgcttttt accttgacta cctgaattgc aagggatttt tatatattca 1920  
tatgttacaa agtcagcaac tctcctgttg gttcattatt gaatgtgctg taaattaagt 1980  
cgtttgcaat taaaacaagg tttgcccaaa tccaaaaaaa aaaaaaaaaa aaaatgggtg 2040  
cg 2042

309953 04054353

## (2) INFORMATION ON SEQ ID NO. 72:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2980 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

10550-07550

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 72:

agcagagtta gccagaaatg cctcctgctg ccccagcctt agagagctcc catctcaate 60  
 attgagcctg aaggcttcaa gcccagaat gcaacaagac ccccagccta cattttctcag 120  
 ctccccctgga gccagctgat cctgtaacgc tgcctggaggt cagtctgagc taccaagact 180  
 gtccctagac aaaggtggag tccccacac tgcccagac caaatccctc actcaacctg 240  
 ctgaggtgtg gatggggaaa cagaggcaaa actgaggcac ctgatgcatt cagcctgctg 300  
 tgcagcagtg ccattgactg ccctgatgtt cagagagaaa cgcacacaag gtttgcccat 360  
 gagaattggg gagcagatgg ccaagcagat aggttatgtc tgttttctga gtgatgaagt 420  
 caggaagccc tgtggctctg gaggccactt gtggttcatt cttttcccat atccttggct 480  
 tttagaaatg gttaccttca ggacagtga gctgcattta tcagagcact attgctaagt 540  
 tttcttttct ggcttgtgtt tttctgggac agtttagaat tgggaggcct attctcatag 600  
 aacacccaaa atgatgttca gtgattcatt taacatacac caatgtactc tggctgctgg 660  
 ggggacaacc ataagcaaga catgcccagg gtttgccgtg gctccagatc tactccctgt 720  
 aggagttcaa ggatcacaca aacggtagta accagggttg tgaatctgag tacacctgg 780  
 caaggcttct cttcagactg aagcagcaat tctgccacta ccagcagcaa ccaggacgtc 840  
 tgttctttgt gggggccaga tcagaagaga gaggccctg tgacgcccg gctgcttgg 900  
 cacaactctg tccaattcaa ggatgtttat cggcctctct tagatctga gtgagacaaa 960  
 tacagaaatg acccattccc tgcccaccag aaactcagag gtgattgggg agactgacac 1020  
 aggaaaatga acttaatcaa gagagactgt gatatgtgct aagaagggtg tgaggggagg 1080  
 agagatgaat tttccctgga gggatcctag aaagcattgt catattgcca tctccattag 1140  
 ctcaatttta aacaactagg gtgctggaag aacctttgtc tgagggtagt tcatagctgg 1200  
 aaataacttg aatattttcc agagtctcta aactctcacc tccccccaca gatacacatc 1260  
 caagctcaca aataggagta gcaattctag gtggtagggt tgtgtacgga acccctggct 1320  
  
 gtctgcatat atctcagaat taccocagga ccattgtccc aaagtctaga gtctttacag 1380  
 gtaggcaaaa tttgttttca atgcctgtgc ctacgtgct gtcacaaata cccatcttag 1440  
 gatcccatca gcttcccatc ccccaccaga cagccacagt accctcactt tctccctatt 1500  
 gttctttcaa atcctgttct caggaaagaa actgccacta attcattcac actaagggtg 1560  
 aaatgattga taataggaat gagttacctc tcccacaga catttgtttt taagtatgac 1620  
 agagcagggc cttaatccca agggaaaagg ttatggaact ggaggggggt agctttctgg 1680  
 gtagaaggag acttcttgaa tttccttaaa acccagtaag agtaagacct gttgttttgg 1740  
 aaggctctgct ccaccatcta agagcactgt tttttttttt gttgttgggt ttgttacgg 1800  
 ctctgagggg atatatgaaa aatgcatatg cagctgcaat ttgcaaggca gcatttcacc 1860  
 gattgtggac tgtattggct aatgtgtttc ctggtcttta gatgcaaacc attataaca 1920  
 ctatcttacc tcatagtttt ttcaggggtg cttcttgatt agtagggaat tttgaacacc 1980  
 tcttttaata cagctagaaa ataaaaacca tttgtaaaag cacatttgca tatgatgcca 2040  
 gcctcacgca tttgtatatc tccagaaatt caggtatgcc tcaccaattt gccctcttt 2100  
 aataaaatct tgtgttaaaa tttgcatacc gtgccttcc tatgtatgac gaaacaagaa 2160  
 acagagattt ccaattgctc ttttgtcttc agacatttag taatataaag tacctatttt 2220  
 tatgctgaaa tgtttatata ggtttattaa tagcaagtgc aactaactgg cggcatgccc 2280  
 tgcaacacat tttgatatat tagccatgct tccgggtaaa ggcaagcccc aaactcctta 2340  
 tcttttgcag tctctctggg atcagtaaaa gaaaaaaaaa ataatgtgct taagaagtgg 2400  
 gactgtaaat atgtatatct aactttgtat agcccattga cctacctgt atagaaaaat 2460  
 aatttttaaaa atttgaatgg aagggggtaa aggaggtcat gaagtttttt tgcattttta 2520  
 tttaaatgaa ggaattccaa ataactcacc tacagatttt tagcacaaaa atagccattg 2580  
 taaagtgtta aaatttacga taagtattct attggggagg aaaggtaact ctgatctcag 2640  
 ttacagtttt tttttccttt ttaatttcat tattttgggt ttttggtttt tgcagtccta 2700  
 tttatctgca gtctgattaa gtctatttgc tagaatagg tactacaaaa aaggttatat 2760  
 tctgaaagaa aaataactga cattatatat accaatttaa tttaaagtat tgccatttaa 2820  
 attacacact gagagcatgt cctatgcaga catagatttt tctgttcatt tatttttctt 2880  
 cattgcagtg gattgatttg ataaatagat gtgttgaaat actacatttg ctgtacatat 2940  
 tatttaataa actttattca gaattgcgtg gcaaaaaaaaa 2980

15673343-33333333

## (2) INFORMATION ON SEQ ID NO. 73:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 227 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 73:

```
cagcattgct ccacggcaca gcataaggat agatcccaag tccacagggt ccattttgca 60
ggtcattatc tgatcctagg aaatgtcctt ttcccatagt tgcctatgc ctttgggggtt120
tagtctatcc caggggtaac tgtggagaaa tcattggttt gagagtcaag agagcattgg180
ttttggagct ttaatccctt tctggttgaa ataaggggtg caacttg 227
```

## (2) INFORMATION ON SEQ ID NO. 75:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 773 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

"RECEIVED" 07-05-93

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 75:

```

cggaagtgtgta aaggttcctg cctctctctg gccaggcgga acctctctgc tgggcccggg 60
ggcgcaaaaa gaactttctt tctcccgccc gaacggctgc cgcgggccaaac tgcctcgccc129
gcctggcagc ctaaccctcc ttctcttctt ctctctctcg gcttcgcgcg gccctgcctc180
cctctcgccc ggcggcatcc gcttgctgct gccaccgect cctcatcttc tgcccgcca240
acöggcctgc cccgctgcag tgatgtgcga caaggagttc atgtgggccc tgaaaaacgg300
agacttggat gaggtgaaaag actatgtggc caaggagaa gatgtcaacc ggacactaga360
aggtggaagg aaacctcttc attatgcagc agattgtggg cagcttgaaa tcctggaatt420
tctgctgctg aaaggagcag atattaatgc tccagataaa catcatatta ctctcttct480
gtctgctgtc tatgagggtc atgtttctg tgtgaaattg cttctgtcaa aggggtgctga540
taagactgtg aaaggcccag atggactgac cgcctttgaa gccactgaca accaggcaat600
caaagctctt ctccagtgat ggatggatgg actgataact ccggaagaat gactctcctg660
tggcctcaca ctgctgcctg tctgtctgtc actctctatc tgccagcttc ttcagctaaa720
tactttaaga ggggtgaggg gagagagaaa ttcataacaa atccgactac cag 773

```

## (2) INFORMATION ON SEQ ID NO. 77:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 870 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 77:

```

gaccggcggt ggctactagg agaaggacgt acggctctgc tagtagagga atatgtcgag 60
tttctctagg ggcggccagc aatggggccac ttttgctaga atatggtatc tcttagatgg120
gaaaatgcag ccacctggca aacttgctgc tatggcatct ataagacttc agggattaca180
taaacctgtg taccatgcac tgagtgactg tggggatcat gttgttataa tgaacacaag240
acacattgca ttttctggaa acaaattgga acaaaaagta tactcttcgc atactggcta300
cccagggtga tttagacaag taacagctgc tcagcttcac ctgagggatc cagtggcaat360
tgtaaaacta gctatttatg gcatgctgcc aaaaaacctt cacagaagaa caatgatgga420
aagggtgcac ctttttccag atgagtatat tccagaagat attcttaaga atttagtaga480
ggagcttctt caaccacgaa aaatacctaa acgtctagat gagtacacac aagaagaaat540
agacgccttc ccaagattgt ggactccacc tgaagattat cggctataag agaataagaa600
ttgcagaaaa taacagtga gtgattgaaa ctttcttctg atgagtttct ctaacctaca660
ggatggagta aaacaactgc tacagttcag cacctgtttt atgtgccgaa tcactgtggg720
gaaaggctcag gaagggtgag tccttcaata ggaaattgta attaaaatat aattttatag780
aaccattttt atgtaatctg atttgaatgt tatagttgat aataataaaa tcacttactt840
ggttgactaa aaaaaaaaaa aaagtcgacg 870

```

## (2) INFORMATION ON SEQ ID NO. 78:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 237 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 78:

```

ttgtgatcgg ctatccttcc cggatcaaca gcgagcccag cccggtcata tacaaccggc 60
ccgggaacaa cgtgaaactg aactgcatgg ctatggggat ttccaaagct gacatcacgt120

gggagttaac ggataagtcg catctgaagg caggggttca ggctcgtctg tatggaaaca180
gatttcttca accccaggga tcaatgaccc attcagcatg ccacaaagag ggggtggc 237

```

## (2) INFORMATION ON SEQ ID NO. 79:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 439 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 79:

```

gtttgggaag ttgagatttg gagcgaataa gtagggatct ggcaagagga tcatctacct 60
cagtcattag gatttcttaa taaaaaagag attgtatttt tgagttgggtt attaagattal20
ttāaaattag cccttccttt gaaatatgac atcagctttg ctgttctaaa ttāaaattal80
gttgcttcat cagtagcaca cttccagttt ctataccaag ccagtcttct cagttttccc240
cttaggatgg gacaagtctg ttcagggggg cattctgtaa ggttcagcag ggggtttggg300
agaggattta aggggaaata cagtgggggc agaatgggtt cgggggtaaa ggtaggggac360
aaggagagga gggcgaaagg aggggtggaa ggatgggggc cttacctaga tcgggggatg420
ccgggggggc aaggcaagg                                     439

```

## (2) INFORMATION ON SEQ ID NO. 80:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2483 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

EST 144255

gcaaaagtct	tcaaactatt	gagaaagagc	catagactga	gtgcaggcac	cagtgcgctc	60
ttattactgt	gtcaattaaa	tgaatgtatt	tgaatgtttg	gatacttacc	tctgaatgta	120
ttttgagtaa	taacttcaag	tgcaaattat	gccatgcata	atctcttttg	tctcatgttt	180
ttccccctt	ttcttttagg	ctttgtcttc	tgagtctata	gaaaaacttc	cagtttttaa	240
caagtcagcc	ttcaaacatt	atcagatgag	ctctgaggct	gatgactgg	gtatcccaag	300
cagggaacca	aagaacctgg	caaaagaagt	ggccatgtga	agagggacac	tcaggacact	360
ttacgggata	aaagtgggtc	tacaccagtg	ctgcttcctg	aatgttttgt	tgtgaacctt	420
tgtttctctc	aaaaacaaag	acagcaacga	aaactcttta	atcagaacac	tgatccaatg	480
aggaatggag	cttgtttctg	tgaccagga	gaacttagtg	caagactaca	ggagttaaca	540
gatggccagc	tccttatttt	ttaatgtaga	ataactcctg	agtttatatc	aaatcctgaa	600
gaaataagcc	tcagtttttc	atctgttttt	gataagaata	agaaagggag	tgagtgtgaa	660
gatggtgggt	agcagtttca	ctaagactga	tatttttaggc	ctcttgttca	catcaaaaaga	720
tattggtgtc	agaataccag	cattttctctg	ccatgcaaag	gattaaaact	tagttttcac	780
tatgtgggta	caaatatatg	tcaatgtaca	ttttgaacat	atztatgtgc	tatggaagga	840
aatgctgggtg	actaaaataa	ggtttactct	gaaagaggag	gaattttatt	caaagcattc	900
aaacatttta	ttcaagtgtt	tcaaaattca	aagcattgta	ttcaaaagttg	cagtgaaggc	960
atcaacttat	gtaaaaactc	agaaggaagg	ctcctctgat	aaaaacacag	ctcctttatt	1020
atgctgcttt	tcttggttcc	tttacacact	aagtaaacac	ttattgtcag	gtgcctagtc	1080
ttgagtgaat	tgtagtagtg	gcactgaact	cgggagtgtg	gggattggag	agagagaatt	1140
gccaaagttaa	cagcaaaaaat	atctcttact	tgtctttgtt	tataaataaa	ttagtagatt	1200
ggaaaaacta	gtgttaggga	aagaaatcac	atgttcagag	cctaattcag	taggaagggc	1260
ttttctctac	cctgaaatga	aggtaatcca	aaggcatcca	ttttctaggc	ttaaaagata	1320
tatttttgat	atattttaatg	atattctcta	cactccagca	ttaatatgtc	tgtttaaaaa	1380
ttactaattc	tcaaattggct	caagaacatt	agaatttaag	taccttttag	agtaattatt	1440
ttaaagcaaat	agcctggacg	taagagattc	tcatgccagc	atgctttcat	ttgtcagttg	1500
ttgtgactga	gagataatga	atgacacctg	aaatgcatat	ggtatTTTTT	ggagagttaa	1560
ggtataatTT	gaaggtttgg	agaccagttg	ggctgattac	tcttagagaa	gaagaaatgg	1620
aaaaatgaaa	gaaggcagga	aggaaaagaa	ggatatagga	agagagggaa	gcagaaggca	1680
ggcatttttc	tattttcccc	acaaattatt	tcaaaaaaaa	tctgattttt	ctgggatactg	1740
tcatttggcaa	gaggaagaac	tggtgttttg	aaagcagtat	ggattcttta	aatgcctctc	1800
actcttacaa	gatagtaggc	tttgagataa	taaaacttacc	cgtgtcaatt	aacattttaa	1860
ctggcatata	gaaaaaaagg	aggatttttc	tgcatgttaa	aataatcagt	atggtttata	1920
tgttgaaatt	gacattttgtg	tgtaatttca	tggtggccta	gtgttgttgt	gcttctggta	1980
atggtaatag	aagctcaact	atttttttgt	ggatttcagt	ttttatcatc	agaagtccta	2040
gacagtgaca	tttcttaatg	gtgggagtc	agctcatgca	tttctgatta	tacaaaacag	2100
tttgacgtag	gttattttgtc	atttcagttt	tttactgaaa	tttgagctaa	acattttttac	2160
atgtaaatac	ttgtattttac	caaagattta	aatcagttga	ttaattaatt	aactcaaata	2220
ctgtgaacta	tcttttaaaa	actagaaaaa	agaaatgtta	gtatctcaat	tacaccaact	2280
gtgcaaatga	acttttgataa	aatagaaata	atctacattg	gccttttgtga	aatctgggga	2340
agagccttag	gattctagta	gatggatact	gaatactcag	gccacttaa	tttataaatg	2400
tatacattgt	gtttttgtct	ttatgctatg	tacagagaaa	tgtgataatt	ttttataata	2460
aatatttttt	atgatgataa	aag				2483



## (2) INFORMATION ON SEQ ID NO. 82:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 353 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 82:

```

ggtggtgggg gggggggtgt tgggccaaaa gacttcggta tctgacaaca gcatcatcta 60
cctcagtcac tagggtttct taataaaaaa gaggttgat ttttgacttg gttattaagg120
ttattaaaaa tagcccttcc ttgaaatat gacatcagct ttgctgttct aaatttaaaa180
ttagttgctt catcagtacc acacttcag tttctatacc aagccagtct cctcagtttt240
cccattagaa tggacatgtg ctgttcagcg tgtcatgtct gtaatgcttc atgcagagag300
tttggtcata gtattaaaga gaaaatacag tgaggtcaca atgtctccag agc 353

```

## (2) INFORMATION ON SEQ ID NO. 83:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1039 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 83:

```

cggggataaac caaacacagc tgtttacggt ttctccctta acccatgctt tcataaaccc 60
cttcggacag cttccccgct caggctttct aaccacacct accccagggg tgccgcattc 120
ctgcactcag aagtctgcag cggctccctca aaaaacttga ttgtgccata aaaatcactg 180
gggatcttgt taatacagct tctaactcaa tagatctggg agatcctgca tttctaacaa 240
gctcccaggt aaggcgagag ctgctgggtg gaggaccatg ctgtgagcag cagggcgaga 300

gtgcccaggg ctgatatata ttggaaatat cacccttgaa gccatcgctg gccccacct 360
cctgtggact gatgcccag ggattcccac cccacttctg caaccccagg tatccttcat 420
tatccacccc atcccagact cccaccccag ggattgccc tgaagacttt ggcctagcaa 480
attgtgttgg ttatgtgagt gttgttttaa tcagagatgt acatgattgc caatctgcat 540
ttcttaccag tgtgaccaca ctgttacgat gcaattctag ccaaaaaaaaa actttttcct 600
agtcttatgg aaagcaaata tacaatgatt ttcagtaggc ttctggaata gaaacagtgg 660
tttgaagacc ccactgccac ctttatggac tggccccctt gagtctgaat ccccggcctc 720
tgtcacctga gacccaaccc ctagctgggc caactccagt gaattcacc atttttcttc 780
ttcagaaggc ctttccctgt tgagaccac atattttaac cttttgctcc tatcccattt 840
ttaagaatt agagaataaa ccaggcctgt ttcttttccc ctgaaatccc tgccctctggc 900
ttcctaaacc catcatctaa ggtgacagag cagtgtctgg aataggcatc ttcctttcaa 960
ctttcccaa actggccaca gataggctgg ccatgggaag ggtctttgga tttcggggga 1020
ggcaaacgtg ggggattgt 1039

```

(2) INFORMATION ON SEQ ID NO. 85:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 330 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

"EST" DATA

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 85:

```

agtgtattca gcaaatgagg gtcagaactt tcagttttatt gatgggttatt cagccgcaga 60
tgagagttta tgcgtcagcc acttcaattt ctgtaaacag aggcacaggc caaggactgt120
aaggggcaga actagttttt cttcaaaatt gcctagggcat aataaggaaa atagcacttt180
tatttcaagg aaaccgatgg aatgttcaaa tgaggaagtt gttaatcaag ggcatcgga240
tggatcaatg ggtaaatttt aggtggcgtc aaggaggggc ttatattcac tcaaaccgg300
atgttatttg gtcgggccaa ggttgaagg                               330

```

## (2) INFORMATION ON SEQ ID NO. 86:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 235 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 86:

```

atttaagtat tttttagttt ttaaaatgtc tttccggtga gggaaggagc cccagccaga 60
aagcaattca atcatggtca agtttccaac tgatcatct tgtgagtggg taatcaggaa120
aaatgaggat ccaaaagaca aaaatcaaag acagatgggg tctgtgactg gatctttatc180
atccattcta aatccgattg aatattgcgg gcttacaaaa tgccaagggg gtgac       235

```

## (2) INFORMATION ON SEQ ID NO. 88:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 866 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 88:

```
caggaccagc ctggccaaca tggcaaaacc ctgtctctac taaaaagtaa aaaaaattag 60
ccgggcatgg tggcttgtgc ttgtagtccc acttcagtct aagtagctgg gactacaggc120
acgtgccaca agcccagcta atgtgggtgt tttgttagag atgaggtagg gccatattgc180
ccaggctcgt cttgaacacc ggggctcaag gaatctgccc atcttcgcct cccaaagttc240
tgagatagca ggtgtgagtc atcatgccca gcctccttga agtttactaa caattgggat300
aactgaggga agagaagtga caattccact cagtctatta gaggtctgga tataaggtag360
ccacacaata actctaactt gacttctaac cattctatct tattgatttg gaggtgtct420
tctgccagat tttttgtggc ttgagatgat attttcgaac ccttctttca ctacctttct480
tacccttaat gtgccaagct tgaacagga tttgatttcc tgagctactt gttcgccttc540

tgtgcgtcac caagtaatct ggttcattct tcgtctcatt catgttattt tcaagtgaaa600
caagacattt tgggggtcaa gtctcttttg gtgttttgtt tttatgtata taaaaatgga660
ttttgtgttc cctttccatg taagtaccaa cttatatgga aactcacaat cataatgtaa720
agaagaaatg aaagcctggt gtattgtact tcaagatgcc tccctgatgt atagaatctc780
cttgtaaaat aaataattgc attgtatatc agtcttccca tcaatattaa ttattaaata840
ttttagaatt tttaaatacc aactat                                     866
```

(2) INFORMATION ON SEQ ID NO. 90:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 846 base pairs

(B) TYPE: Nucleic acid

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

"B95E" 07924 955

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 90:

```

ctccttgtcc aacggaaaaa acatggaagg gttaagccta aacaaccctc aaacggaact 60
ttatgocaga aaacaactac ggaataaaaa cccacaaaaa tacagagagg aacgtttttta120
accttttaggg cctgcgtcct ctgccttttg cccatcaggg tcaaagagta ggagtgaggal80
aggaagggat gggacagcat cccctgggac gttcaagtac catccctggg ctccactctc240
cagccttaga gagtggacca gccagagcac ctcgtctgga ctctcagacc tgctgctttg300
tctctacca ccttggcagg gatctaggat ccatttagtg ggatcagggt ccagtcaata360
ccattggggc tcaaataagt tcttagaacc acagagtcta gggccagggt cccaactcat420
aggtgacgga gttcccttct aagctcgtgc cgaattcggc acgagcgggc acgagcttga480
agggaaactcc gtcagctatg agttgggacc ctggccctag actctgtggt tctaagaact540
tatttgagcc ccaatggtat tgactgggac ctgatccac taaatggatc ctatgccct600
gccaaaggttg gtagagacaa agcagcaggt ctgagagtc agacgaggtg ctctggctgg660
tccactctct aaggctggag aaggagacc aggatggtac ttgaacgtcc cagggatgct720
gtcccatccc ttcttctct actctactc tttgacctg atggccaaag ccagagacgc780
aggccctaaa ggtaaaaacg tctctctgtg attctctggc ttttactccc tagtgtctct840
gcataa

```

846

## (2) INFORMATION ON SEQ ID NO. 92:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1374 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 92:

```

cgaaagcgtc ggactaccgt tggtttccgc aacttcctgg attatcctcg ccaaggactt 60
tgcaatatat ttttccgctt tttctggaag gatttcgctg cttcccgaag gtcttggacg 120
agcgctctag ctctgtggga aggtttttggg ctctctggct cggattttgc aatttctccc 180
tggggactgc cgtggagccg catccactgt ggattataat tgcaacatga cgctggaaga 240
gctcgtggcg tgcgacaaag cggcgacaga gatgcagacg gtgaccgccc cgggtggagga 300
gcttttgggt gccgctcagc gccaggatcg cctcacagtg ggggtgtacg agtcggccaa 360
gttgatgaat gtggacccag acagcgtggt cctctgcctc ttggccattg acgaggagga 420
ggaggatgac atcgccctgc aaatccactt cacgctcatc cagtccttct gctgtgacaa 480
cgacatcaac atcgtgcggg tgtcgggcat gcagcgctg gcgcagctcc tgggagagcc 540
ggccgagacc cagggcacca ccgaggcccc agacctgcat tgtctcctgg tcacgaaccc 600
tcacacggac gcctggaaga gccacggctt ggtggaggtg gccagctact gcgaagaaag 660
ccggggcaac aaccagtggg tcccctacat ctctcttcag gaacgctgag gcccttccca 720
gcagcagaat ctgttgagtt gctgccacaa acaaaaaata caataaatat ttgaaccccc 780
tcccccccag cacaaccccc ccaaaaacaac ccaaccacg aggaccatcg ggggcagagt 840
cgttggagac tgaagaggaa gaggaggagg agaaggggag tgagcggccg caccagggc 900
agagatccag gagctggcgg ccgccgatca gatggagaag gggggaccca ggccagcagg 960
agacagagcc ccggaagctg aggccttggg atggagcaga agccggagtg gcggggcacg 1020
ctgcccctt ccccatcagc gaggggtccag actgtccact cgggggtgga gtgagactga 1080
ctgcaagccc caccctcctt gagactggag ctggcgtctg catacgagag acttggttga 1140
acttggttgg tccttgtctg caccctcgac aagaccacac tttgggactt gggagctggg 1200
gctgaagttg ctctgtaccc atgaactccc agtttgcgaa ttatagagac aatctatttt 1260
gttacttgca cttgttattc gaaccactga gagcgagatg ggaagcatag atatctatat 1320
ttttatttct actatgaggg ccttgtaata aatttctaaa gcctctgaaa aaaa 1374

```

## (2) INFORMATION ON SEQ ID NO. 93:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 761 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

"07354" 07354

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 93:

```

gcctgatggg ctggagccag actgtggtct gaggaggaga cacagcctta taagctgagg 60
gagtggagag gcccgggggc aggaaagcag agacagacaa agcgtttaga gaagaagaga120
ggcaggggaag acaagccagg cacgatggcc accttcccac cagcaaccag cgccccccag180
cagccccag gcccgaggga cgaggactcc agcctggatg aatctgacct ctatagcctg240
gccattcct acctcgaggg tggaggccgg aaaggtcgca ccaagagaga agctgctgcc300
aacaccaacc gcccagccc tggcgggcac gagaggaaac tggtgaccaa gctgcagaat360
tcagagagga agaagcgagg ggcacggcgc tgagacagag ctggagatga ggccagacca420
tggacactac acccagcaat agagacggga ctgcggagga aggaggacc aggacaggat480
ccaggccggc ttgccacacc cccacccctt aggacttatt cccgctgact gagtctctga540
ggggctacca ggaaagcgcc tccaacccta gcaaaagtgc aagatgggga gtgagaggct600
gggaatggag ggcagagcca ggaagatccc ccagaaaaga aagctacaga agaaactggg660
gctcctccag ggtggcagca acaataaata gacacgcacg gcagcacaaa aaaaaaaaaa720
aaaaaaaaatcc ttgttaaaaa aaaaaaaaaa aaaaaaaaaa a 761

```

## (2) INFORMATION ON SEQ ID NO. 94:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1825 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cdna library

J05050 07052950

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 94:

```

agggaagcta gtagcggacc ggaagtgagg caccctcggg ctcgagacag cggcgacgtt 60
taaagctgag cgaccagtg ccactggaga cggtcagctt ctccactcag gctcctccag 120
cccgagccag aagacccctt cccccagaa tctgggggcc gatggaagg agccgagtc 180
gatcgcgagg taccagagc cgacagacc gagcgacag gagttgccag aagccccgcc 240
cctaggagtg atcggaaagc ctcacccatc cgggtgagga acccgaggga ccgcctccgg 300

gcgagagcgc gaccatggct acgcccctgg tggcggttcc cgcagctcta cgcttcgccg 360
ccgcggtctag ctggcaggtt gtgcgaggac gctgcgtgga acattttccg cgagtactgg 420
agttttctgc atctctgcgc gctgttgccc ctggcttggt tgcctaccgg caccacgaac 480
gcctttgtat gggcctaaag gccaaaggtg tgggtgagct gatcctgcag ggccggcctt 540
gggcccaggt cctgaaagcc ctgaatcacc actttccaga atctggacct atagtgcggg 600
atcccaaggc tacaagcag gatctgagga agattttgga ggcacaggaa actttttacc 660
agcaggtgaa gcagctgtca gaggtctctg tggatttggc ctgaaagctg caggaaactt 720
aacaagagta tggggaaccc tttctggctg ccatggaaaa gctgcttttt gactacttgt 780
gtcagctgga gaaagcactg cctacaccgc aggcacagca gcttcaggat gtgctgagtt 840
ggatgcagcc tggagtctct atcacctctt ctcttgcttg gagacaatat ggtgtggaca 900
tgggggtggc gcttccagag tgctctgtta ctgactcagt gaacctggct gagcccatgg 960
aacagaatcc tctcagcaa caaagactag cactccacaa tcccctgcc aagccaagc 1020
ctggcacaca tottctcag ggaccatctt caaggacgca cccagaacct ctactggcc 1080
gacacttcaa tctggccctt ctaggccgac gaagagttca gtcccaatgg gcctccacta 1140
ggggaggcca taaggagcgc cccacagtca tgctgtttcc ctttaggaat ctgggtcac 1200
caacccaggt catatctaag cctgagagca aggaagaaca tgcgatatac acagcagacc 1260
tagccatggg cacaagagca gcctccactg ggaagtctaa gagtccatgc cagaccctgg 1320
ggggaagggc tctgaaggag aaccagttg acttgctgc cacagagcaa aaggagaatt 1380
gcttggtatt ctacatggac cccctgagac tatcattatt acctcctagg gccaggaagc 1440
cagtgtgtcc tccgtctctg tgcagctccg tcattaccat aggggacttg gttttagact 1500
ctgatgagga agaaaatggc cagggggaag gaaaggaatc tctggaaaac tatcagaaga 1560
caaagtttga caccttgata cccactctct gtgaatacct acccccttct ggccacggtg 1620
ccatacctgt ttcttctctg gactgtagag acagttctag acctttgtga tagaactaaa 1680
atgctctctg tactctagtc tctgctctcc tcagctctgc aagtagttta gtaggaatga 1740
agtggaagtc caggcttgga ttgcttaact acactgctaa aaatatttgt aatccttaat 1800
aattaaactt tggatttgtt aaaaaa

```

12345678910111213141516171819202122232425262728293031323334353637383940414243444546474849505152535455565758596061626364656667686970717273747576777879808182838485868788899091929394959697989910010110210310410510610710810911011111211311411511611711811912012112212312412512612712812913013113213313413513613713813914014114214314414514614714814915015115215315415515615715815916016116216316416516616716816917017117217317417517617717817918018118218318418518618718818919019119219319419519619719819920020120220320420520620720820921021121221321421521621721821922022122222322422522622722822923023123223323423523623723823924024124224324424524624724824925025125225325425525625725825926026126226326426526626726826927027127227327427527627727827928028128228328428528628728828929029129229329429529629729829930030130230330430530630730830931031131231331431531631731831932032132232332432532632732832933033133233333433533633733833934034134234334434534634734834935035135235335435535635735835936036136236336436536636736836937037137237337437537637737837938038138238338438538638738838939039139239339439539639739839940040140240340440540640740840941041141241341441541641741841942042142242342442542642742842943043143243343443543643743843944044144244344444544644744844945045145245345445545645745845946046146246346446546646746846947047147247347447547647747847948048148248348448548648748848949049149249349449549649749849950050150250350450550650750850951051151251351451551651751851952052152252352452552652752852953053153253353453553653753853954054154254354454554654754854955055155255355455555655755855956056156256356456556656756856957057157257357457557657757857958058158258358458558658758858959059159259359459559659759859960060160260360460560660760860961061161261361461561661761861962062162262362462562662762862963063163263363463563663763863964064164264364464564664764864965065165265365465565665765865966066166266366466566666766866967067167267367467567667767867968068168268368468568668768868969069169269369469569669769869970070170270370470570670770870971071171271371471571671771871972072172272372472572672772872973073173273373473573673773873974074174274374474574674774874975075175275375475575675775875976076176276376476576676776876977077177277377477577677777877978078178278378478578678778878979079179279379479579679779879980080180280380480580680780880981081181281381481581681781881982082182282382482582682782882983083183283383483583683783883984084184284384484584684784884985085185285385485585685785885986086186286386486586686786886987087187287387487587687787887988088188288388488588688788888989089189289389489589689789889990090190290390490590690790890991091191291391491591691791891992092192292392492592692792892993093193293393493593693793893994094194294394494594694794894995095195295395495595695795895996096196296396496596696796896997097197297397497597697797897998098198298398498598698798898999099199299399499599699799899910001001100210031004100510061007100810091010101110121013101410151016101710181019102010211022102310241025102610271028102910301031103210331034103510361037103810391040104110421043104410451046104710481049105010511052105310541055105610571058105910601061106210631064106510661067106810691070107110721073107410751076107710781079108010811082108310841085108610871088108910901091109210931094109510961097109810991100110111021103110411051106110711081109111011111112111311141115111611171118111911201121112211231124112511261127112811291130113111321133113411351136113711381139114011411142114311441145114611471148114911501151115211531154115511561157115811591160116111621163116411651166116711681169117011711172117311741175117611771178117911801181118211831184118511861187118811891190119111921193119411951196119711981199120012011202120312041205120612071208120912101211121212131214121512161217121812191220122112221223122412251226122712281229123012311232123312341235123612371238123912401241124212431244124512461247124812491250125112521253125412551256125712581259126012611262126312641265126612671268126912701271127212731274127512761277127812791280128112821283128412851286128712881289129012911292129312941295129612971298129913001301130213031304130513061307130813091310131113121313131413151316131713181319132013211322132313241325132613271328132913301331133213331334133513361337133813391340134113421343134413451346134713481349135013511352135313541355135613571358135913601361136213631364136513661367136813691370137113721373137413751376137713781379138013811382138313841385138613871388138913901391139213931394139513961397139813991400140114021403140414051406140714081409141014111412141314141415141614171418141914201421142214231424142514261427142814291430143114321433143414351436143714381439144014411442144314441445144614471448144914501451145214531454145514561457145814591460146114621463146414651466146714681469147014711472147314741475147614771478147914801481148214831484148514861487148814891490149114921493149414951496149714981499150015011502150315041505150615071508150915101511151215131514151515161517151815191520152115221523152415251526152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## (2) INFORMATION ON SEQ ID NO. 95:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1374 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 95:

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ccgggattcg cccctccgggg agcgattggt cctcggggagg ggcgggggagg tggacgcggg 60
taccggcggt cgtcggggtcg gcagcctttg gtcagttggc agcggcaagc gcgctgcggt 120
tccggtggcg ccatgtcggt ctgcagcttc ttcgggggag aggttttcca gaatcacttt 180
gaacctggcg tttaactgtg tgccaagtgt ggctatgagc tggtctccag ccgctcgaag 240
tatgcacact cgtctccatg gccggcggtc accgagacca ttacgcca cagcgtggcc 300
aagcgtccgg agcacaatag atctgaagcc ttgaagggtg cctgtggcaa gtgtggcaat 360

gggttggggc acgagttcct gaacgacggc cccaagccgg ggcagtcctc attctgaata 420
ttcagcagct cgctgaagtt tgcctctaaa ggcaaagaaa cttctgcctc ccagggtcac 480
taggcgggca gcccacaccc accccagacg gccaccacac tgaggccaca cgttggccat 540
tccaccttgg agttggaacc ctgggctcg agacaggaag gcagggcgca gtggttgaaa 600
catcaggaca ctcccaaggc cccggtctcg aacaagacct ttctgtttct tggaaaagag 660
actcatttgc tgatggttca tgctctctgc tgggacaggc ctgggctgtg cagccacact 720
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gctggtctct gaatgacgtt acaccctcac cttcttttcc tggccctgtc tctggaactc 840
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gaaagcggct gttgtccat aactctaacc agcacagggc tgaggcctgc agtgcacacc 1200
tgcaggaggc cccttcccaa ggtgtggtga ctgtgcctta ctgtacatgc tcggaggcct 1260
ggccatatag gaggggtggg gatgctgaaa tcacccccca tcttaagtaa ttactttctg 1320
gagtaatcag gtggaaatcc atagacaaat gaaacattca gatgtaaaaa 1374

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## (2) INFORMATION ON SEQ ID NO. 96:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2615 base pairs  
 (B) TYPE: Nucleic acid  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN  
 (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 96:

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 gtcccttttat gacacattcc atactgtggc tgacatgatg tatttctgcc agatgctggc 120  
 agttgtggaa actatcaatg cagcaattgg agtcactacg tcaccgggtgc tgcccttctct 180  
 gatccagctt cttggaagaa attttatttt gtttatcatc tttggcacca tgggaagaaat 240  
 gcagaacaaa gctgtggttt tctttgtggt ttatttgtgg agtgcaattg aaattttcag 300  
 gtactctttc tacatgctga cgtgcattga catggattgg aagggtgctca catggcttcg 360  
 ttacactctg tggattccct tatatccact gggatgtttg gcggaagctg tctcagtgat 420  
 tcagtccatt ccaatattca atgagaccgg acgattcagt ttcacattgc catatccagt 480  
 gaaaatcaaa gttagatttt ccttttttct tcagatttat cttataatga tatttttagg 540  
 tttatacata aattttcgtc acctttataa acagcgcaga cggcgctatg gacaaaaaaa 600  
 gaaaaagatc cactaaaaag aaagatttag atggcttctt gccagtttga gcctaattctg 660  
 attcttacag ttttaccttc ttgaaccaat gtaaaagttt ttttaatgtt aaatgattaa 720  
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 cagttaatga caccaaaagg ctcagcccac cccaacccta tctcatgttc agtctgtcta 900  
 atacatgcca gagatttttt tttcaaaaag tgcttttatcc ctacaatgta ctgacagttc 960  
 ttacagttga gatttgttct tttcagctat tgcttgtgaa aaaaagcaag actatgtcac1020  
 tctatagaag gctgttaaag tgactcaggc aggaattaat tattctgtac ctaaggggtt1080  
 acttgtttaa tgggatggca ttgacttttt gaaaatcaag tggactgagt cattgataaa1140  
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 catctattat tatagtgtct agcagtgtgg gcattgaaga ggcgcagaat gctttgaaag1260  
 aaactaatca gaatcttgga acatcatgat catgccattc ttaagtaaat caactatttt1320  
 caacactgaa gaaaaatgaa acattattta gaaaacaatg agattacaag ttccaaactc1380  
 agccaggaat gtggctcaca cctgtaatcc cagcactttg ggacacctag gtgggagcat1440  
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 aaaaaataaa aaaattagct ggggtgtgat gcaacacctt gtttgtocca gctactcaag1560  
 aagctgagat gggaggatcc tgagctcagg aggtcaaggc tgcagtgagc cgagatttgt1620  
 ccactgcact gcagcctggg gtgacagtgc aagaccctgt ctcaaaccac accaaaccac1680  
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 gtgggtgggac tgtacatttt tgaatagacc tcaaaaatac ttcattctgc tgctgttcag1980  
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 tttctgttct gccattccca acattcctgg gggaaaggag actcaatgag ttaatactat2280  
 ttcactgagc ccaagatgga aacttggttt gacctaaaac atctgattaa tataggctag2340  
 ctgatttctt aaaaattcgt tgcattgaag gatattttgc atgtctgtaa cacctgtcaa2400  
 tacttggttg tattgatttc tgatattctt gcagctgact acgtgtaatt gggcagatca2460  
 gctttgcagt agattatgct gcacccctgt ggcaaaattc tgtattotta gtgattgtta2520  
 caaaccctt tattgctgtc tgagaaagtg aaagattgtg tatttctatt aaaacattta2580  
 2615

JUN 1997 11:54:34

## (2) INFORMATION ON SEQ ID NO. 97:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 508 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 97:

gttggcagaa acccggatgc cggttccgggt gggcctccat cagcaagctc cagtgcctacg 60  
 tgtccctggc attttaggtg tcgggtgggt aggcagtcac ggatcaggta atgcagtttg120  
 ttgagccaag tcggcagttt gtaaaggact ccattcggct ggtaaaaaga tgcactaaac180  
 ctgatagaaa agaattccag aagattgccca tggcaacagc aataggattt gctataatgg240  
 gattcattgg cttctttgtg aaattgatcc atattcctat taataacatc attgttggtg300  
 gctgaataca ttttggaaga gagtttttca tcttagagat tggatgaaca gtgtgagggg360  
 gtgagaaaact cacagaatac aaatttgccg gtatgttttg tgggtttttt tttttccttt420  
 caagatgttt tctatttcta aattaaagta atttcaaagt aaaaaaaaaa aaaaagtcga480  
 cgcggccgcg aatttagtag tagtaggc 508

## (2) INFORMATION ON SEQ ID NO. 98:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3588 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

## (vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 98:

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aagcttttga agtaaggtta tgtctcttcc ctgaagcttt gtttatagt gtaatttggg 180
gagtttgagc tttgagcttg tcttagaaaa taagactgtc cacctgggga ggggagctta 240
tagggaaccc gtgttaactc agaatgctga agaaagtgtc tttagccaac aaaagtaaga 300
ttactatcta gaaggtggaa agaagtcatt gcttctgttc ctccagcagt cagttgactc 360
taggtttcct ttggtttata tccccagttc ttaatactaa aacttatttg acttcctatc 420
aggaagcaca caaaaaaagc gtcattttaa accctggata taggctttaa aggatacaaa 480
aacagcagca ttgtcgtttt gccaggttca tcaccatttt gatgtgctac ccctccttcc 540
acctccctt tcctgcccc aagcctccca gccaggccag atgtgaagat tctattaatc 600
actgtttcag agaacattaa ttcttgtata gaataattat ctactaaatt gcttattatc 660
tgtgactacc ttgcagagaa catctcaaca gtgcagtaaa atagctctcc tagacttgag 720
cttcagcca ggcattttaga tcaactttaa gcctttgtgg aattctgagg aaaaaaagca 780
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ggataggtct gctccacgta gaacctcccc agatcggaag ttaagtcttg gagagtttcc 1260
aaagtgtgta agtaaaaagg agacttggag ggcctttgct taatgagcaa gaggcttgtg 1320
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catttccatc tgtgaatgga catagatgtg ttgctcaggg atcagaaaca tcagagtcca 1560
gggccacgtg gcatggtggt gcattagtag ttagaaaagt aattggtcag ctctactgt 1620
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tcaggttggt gagaactggt gtaaaatgga attgaagcta gtgtctctca ccttcttagg 1860
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ccagaactct gctgctgttc atttccatca ggaccacca ggaaagcaaa taagttagcc 2520
ttctcatcat taggtcacct aatctcttgg gttgcaggat gagagcatat atagatctcc 2580
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ccaaggaaat gtgctttagt ggaaagagag gtcagttgtg gtccttaaac ctcttggcac 2760
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tttgtttgct tgtttccaaa atagccttgc ggtactgc atggaaagtt caagcttttc 2940
ttcttgcccg ctcagggtgt gcctcttccc cgtgtcttca cagcgtccct aaggaagatt 3000
tttgagcac tctctggagc tgaggggagt gaaatttggg ccagagaagg cggaaggaaa 3060
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tcatgggtgc ggctggcagt acagtcaggc tgtggaggag ggctgagaag aaagggggcac3180
tggtccagcc ccagggttgg tctgagacag gtacacagca gataccatcc caccttcctc3240
tctaaagaac aggccagcca cacatataac cctttcccta ctttactaat gtatccctta3300
tgtgttacca gcaatggagg acaggcagac ttaccccttg ccactctagag agaattgtgt3360
tattacccgt aaaacttgac ccccccata tccactcct tttgtaaaa acaaatgctt3420
aaacctgtga gcoctgcoctt cctttctatg tgtaaatcag tttccttcca tttgagctgt3480
gtgggaggga agggcattga aattgtaggt tgtaattctg tgccaaccaa taaaaaccag3540
tatttcacac acaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3588

```

(2) INFORMATION ON SEQ ID NO. 99:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1218 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 99:

```

tggtggcgtt taaataacaa atctgctaaa gttaggcaac aggcagctga cttgatttct 60
cgaactgctg ttgtcatgaa gacttgctca gaggaataat tgatgggaca cttgggtgtt 120
gtattgtatg agtatttggg tgaagagtac cctgaagtat tgggcagcat tcttggagca 180
ctgaaggcca ttgtaaatgt cataggtatg cataagatga ctccaccaat taaagatctg 240
ctgcctagac tcacccccat cttaaagaac agacatgaaa aagtacaaga gaattgtatt 300
gatcttggtg gtcgtattgc tgacagggga gctgaatatg tatctgcaag agagtggatg 360
aggatttgct ttgagctttt agagctctta aaagcccaca aaaaggctat tcgtagagcc 420
acagtcaaca catttggtta tattgcaaa ggcattggcc ctcatgatgt attggctaca 480
cttctgaaca acctcaaagt tcaagaaagg cagaacagag tttgtaccac tgtagcaata 540
gctattgttg cagaaacatg ttcaccttt acagtactcc ctgccttaat gaatgaatac 600
agagttoctg aactgaatgt tcaaaatgga gtgttaaaat cgctttcctt cttgtttgaa 660
tatattggtg aaatgggaaa agactacatt tatgccgtaa caccgttact tgaagatgct 720
ttaatggata gagaccttgt acacagacag acggctagtg cagtgggtaca gcacatgtca 780
cttgggggtt atggatttgg ttgtgaagat tcgctgaatc acttgttgaa ctatgtatgg 840
cccaatgtgt ttgagacatc tcctcatgta attcaggcag ttatgggagc cctagagggc 900
ctgagagttg ctattggacc atgtagaatg ttgcaatatt gtttacaggg totgtttcac 960
ccagcccggg aagtcagaga tgtatattgg aaaatttaca actccatcta cattggttcc 1020
caggacgctc tcatagcaca ttaccaaga atctacaacg atgataagaa ccacctaatal 1080
atocgggttaa tgaaccttgg cctatagctt agtaatttta agtgggttat tttgggtggt 1140
aatgcccact gcttcacacc ttaaacttgc tttgagttgg tgggtggtacc tttaaacatg 1200
cajatcagtg gtgactgg

```

1218

## (2) INFORMATION ON SEQ ID NO. 100:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1303 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 100:

```

gtgctcaaga agtgcccttga gttgggtgtac agtgccatgg ccagcaagaa tcccagattt 60
cagggttttat tacaaaatgt aagtgggtcac ttggcgattt ttagtagacat gcatgagtta 120
cctttttttct ctatgtctga gaactgtcag attaaaacaa gatggcaaag agatcgtttag 180
agtgcacaaac aaaatcacta tcccattaga cacatcatca aaagcttatt tttattcttg 240
cactggaaga atcgtaagtc aactgtttct tgaccatggc agtgttctgg ctccaaatgg 300
tagtgattcc aaataatggt tctgttaaca ctttggcaga aaatgccagc tcagatattt 360
tgagatacta aggattatct ttggacatgt actgcagctt cttgtctctg ttttggatta 420
ctggaatacc catgggcccct ctcaagagtg ctggacttct aggacattaa gatgattgtc 480

agtacattaa acttttcaat cccattatgc aatcttgttt gtaaatgtaa acttctaaaa 540
atatgggttaa taacattcaa cctgtttatt acaacttaaa aggaacttca gtgaatttgt 600
ttttattttt taacaagatt tgtgaactga atatcatgaa ccatgttttg ataccctttt 660
ttcacgttgt gccaacggaa taggggtgtt gatatttctt catatgttaa ggagatgctt 720
caaaatgtca attgctttta acttaaatc cctctcaaga gaccaaggta catttacctc 780
attgtgtata taatgtttta tatttgtcag agcattctcc aggtttgcag ttttatttct 840
ataaagtatg ggtattatgt tgctcagtta ctcaaagtgt actgtattgt ttatatttgt 900
accccaaata acatcgtctg tactttctgt tttctgtatt gtatttgtgc aggattcttt 960
aggctttatc agtgtaatct ctgcccttta agatatgtac agaaaatgtc catataaatt 1020
tccattgaag tcgaatgata ctgagaagcc tgtaaagagg agaaaaaac ataagctgtg 1080
tttccccata agttttttta aattgtatat tgtatttgta gtaatatcc aaaagaatgt 1140
aaataggaaa tagaagagtg atgcttatgt taagtcctaa cactacagta gaagaatgga 1200
agcagtgcaa ataaattaca tttttcccaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1260
atacgttgga atgaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1303

```

F05529-04957550

## (2) INFORMATION ON SEQ ID NO. 101:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2333 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 101:

```

tgaaaaaatgc ggacagtata ttcagaaaagg ctattccaag ctcaagatat ataattgtga 60
actagaaaaat gtagcagaat ttgagggcct gacagacttc tcagatacgt tcaagttgta 120
ccgaggcaag tcggatgaaa atgaagatcc ttctgtggtt ggagagttaa agggctcctt 180
tcggatctac cctctgccgg atgacccag cgtgccagcc cctcccagac agtttcggga 240
attacctgac agcgtccccc aggaatgcac ggtaggatt tacattgttc gaggttaga 300
gctccagccc caggacaaca atggcctgtg tgacccttac ataaaaataa cactgggcaa 360
aaaagtcatt gaagaccgag atcactacat tcccaacact ctcaaccag tctttggcag 420
gatgtacgaa ctgagctgct acttaacctc agaaaaagac ctgaaaattt ctgtctatga 480
ttatgacacc tttaccggg atgaaaaagt aggagaaaca attattgatc tggaaaaccg 540
attcctttcc cgctttgggt cccactgccg cataccagag gactactgtg tttctggagt 600
caatacctgg cgagatcaac tgagaccaac acagctgctt caaatgtcg ccagattcaa 660
aggcttccca caaccatcc tttccgaaga tgggagtaga atcagatatg gaggacgaga 720
ctacagcttg gatgaatttg aagccaacaa aatcctgcac cagcacctcg gggccctga 780
agagcggctt gctcttcaca tctcaggac tcaggggctg gtccctgagc acgtggaaac 840
aaggactttg cacagcacct tccagcccaa catttcccag ggaaaacttc agatgtgggt 900
ggatgttttc cccaagagtt tggggccacc aggcctcct ttcaacatca caccgccgaa 960
agccaagaaa tactacctgc gtgtgatcat ctggaacacc aaggacgta tcttggacga 1020

gaaaagcatc acaggagagg aaatgagtga catctacgtc aaaggctgga ttcttggcaal1080
tgaagaaaaac aaacagaaaa cagatgtcca ttacagatct ttggatggtg aagggaattt1140
taactggcga tttgttttcc cgtttgacta ccttccagcc gaacaactct gtatcgttgc1200
gaaaaaagag catttctgga gtattgacca aacggaattt cgaatccac ccaggctgat1260
cattcagata tgggacaatg acaagtttct tctggatgac tacttgggtt tcttagaact1320
tgacttgctg cacacgatca ttcttgcaaa atcaccagag aaatgcaggt tggacatgat1380
tccggacctc aaagccatga acccccttaa agccaagaca gctccctct ttgagcagaal1440
gtccatgaaa ggatggtggc catgctacgc agagaaagat ggcgcccgcg taatggctgg1500
gaaagtggag atgacattgg aaatcctcaa cgagaaggag gccgacgaga ggccagccgg1560
gaaggggagg gacgaaccca acatgaaccc caagctggac ttaccaaate gaccagaaac1620
ctccttcttc tggttcacca acccatgcaa gaccatgaag ttcatcgtgt ggcgcgctt1680
taagtgggtc atcatcggct tgctgttctt gcttatcctg ctgctcttcg tggcctgtct1740
cctctactct ttgccgaact atttgtcaat gaagattgta aagccaaatg tgtaacaaag1800
gcaaaggctt catttcaaga gtcattccagc aatgagagaa tctgcctct gtagaccaac1860
atccagtgtg attttgtgtc tgagaccaca cccagtagc aggttacgcc atgtcaccga1920
gccccattga ttcccagagg gtcttagtcc tggaaagtca ggccaacaag caacgtttgc1980
atcatgttat ctcttaagta ttaaaagttt tattttctaa agttttaaatc atgtttttca2040
aaatattttt caagggtggt ggttccattt aaaaatcatc tttttatatg tgtcttcggt2100
tctagacttc agctttttgga aattgctaaa tagaattcaa aaatctctgc atcctgaggt2160
gatatacttc atattttgtaa tcaactgaaa gagctgtgca ttataaaatc agttagaata2220
gttagaacia ttcttattta tgcccacaac cattgctata ttttgtatgg atgtcataaa2280
agtctattta acctctgtaa tgaaactaaa taaaaatgtt tcacctttaa aac 2333

```

EST: 101

(i) SEQUENCE CHARACTERISTIC:

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) ANTI-SENSE: NO

(A) ORGANISM: HUMAN  
(C) ORGAN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 102:

cattactggtt	atatgagaaa	cattttagta	atttaataaa	aggataatgt	ttatttaaaa	60
aacctgactt	ttccagagta	atTTTgtttt	gcacattcat	gtttattgaa	gtggactaat	120
ttctataatg	caaatacagag	ttaaatatta	aaaattgtgt	aaatacaatt	gacatagagaa	180
ttacattaaa	atattaggaa	gaaacaagga	caaatttaga	cottgaatcc	gaagagataa	240
agcttacttg	actttcaaat	ggagagatga	tgaaaaccca	ctcattcagt	ctttcagaac	300
aaaaagacag	tcattctgata	agagtatgac	atggatgaaa	tgccctacag	gggccttgga	360
catctttaat	ttctgcgatt	atgtgaaaga	ggtggacttt	acagataatg	gagcagaagc	420
caacattagt	aaaaggaatc	ccaacttctt	cccatagaat	tagaaacatg	tgaaagtaca	480
ataaacttct	tgttcaaatt	accagcatca	gagagcttcc	cattttgcac	tagaccttga	540
atttatattt	attgatcaag	ttctaatttg	tatgtatatt	ttgtgcatat	tcaccaataa	600
cagttaaaaat	taattatgtg	ttatagttaa	tatatgcacc	taccttcttc	cgttagtgc	660
tcagtaaaatg	tgttattttg	tcatttttcc	aaagagagtg	ttgtagggtt	tcctgtagt	720
tcttccctta	tagcttttct	tctgataacc	atgacttcag	gagcttttaa	actatctatc	780
ttgcatttgt	gtctggcgga	gaactagcca	tcagcctcct	gaagcctgcc	atcattgtta	840
atttgaggac	tgggctgtct	tggggctcag	aaggtaaaga	actatttgag	cagatgtgtg	900
tgggtggcac	tggattccac	ccaactgcc	agttagtatt	gttagagatt	tcattttaca	960
acacaaaaat	aagcctgtgt	caactgtttt	aaaatcatgg	aaagttaaaa	tctagaaaga	1020
ccttagagaa	ccagccaacc	aactcttcca	ttttaaaagt	gaaggattca	tagcacagat	1080
tacttgccct	agatcatcca	ggaacgaaga	caagaatcca	aatgtacttg	gggacaagaa	1140
ttagtcacca	aattcagtg	tcttccctagt	attaaacatt	gccctttctg	acaaattttg	1200
gatttcaatc	ttgggtatatt	tcagtaaacc	tgctgattta	ttaggttact	gggtagatga	1260
cattagaatg	tagatagcgt	gcacgctatg	atagactctg	ctaagacatg	ttcccagtg	1320
ccagcagcaa	tgtagatatg	tgtgacagtg	gtcatgtaga	agttataaag	cagagta	1377



## (2) INFORMATION ON SEQ ID NO. 103:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 315 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 103:

```

ataaggaatg agaagaaagg ctgtgtctta tcagtaggtg agatggaact ggtcctggta 60
gtgttggagc aggacaggca cttagttctg atgctgtggt cctttgtgat agtagagcac120
cggggttaac caccactcct ttaggctact tgtagtgaca acagaagtaa aatatttcaal80
ttattttaatt tagaatgtta tgttttactg gaacctgcaa tatgcatgta cagaattaat240
aatttttact cttttggtca agttatacta aggcaaagcc agtggattca aaagtgagac300
attgacaggc cattt                                     315

```

## (2) INFORMATION ON SEQ ID NO. 104:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2355 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 104:

atgatcatgc	cactgcactc	catcctgggt	gacagcaaga	tcttgtaaaa	aaaaaaaaaa	60
aaaaaaccag	gagtgaaaaa	ggaaagtaga	aggcagctgc	tggcctagat	gttggtttgg	120
gaatattagg	tgatcctggt	gagattctgg	atccagagca	atttctttag	cttttgactt	180
tgccaaagtg	tagatagcct	ttatccagca	gtattttaag	tggggaatgc	aacgtgaggc	240
caactgaaca	attccccccg	tggctgccca	gatagtcaca	gtcaagggtg	gagagtctcc	300
ttccagccag	tgacctaccc	aaaccttttg	ttctgtaaaa	ctgctctgga	aataccggga	360
agcccagttt	tctcacgtgg	tttctagctt	cttcgacttc	agcccaaatt	aggaagtgca	420
gaagcacatg	atggtgaaaa	acctaggatt	tggcagcctt	ccagaatggg	atggaatctg	480
agggaaagatt	tatgttttctg	tttgaggat	agctcaagtt	gaattttctt	tccagccagt	540
taccctttca	acctacctac	actttgtaca	actcttacac	aaataacttag	atattttatta	600
gatagccctg	aattcactct	aattataaac	agggagtgtg	aactgcccc	agatgttctt	660
gggctgggta	aaagcagctg	gagtgaagca	ctcatttttc	ataaaggtaa	caaagggcag	720
ctcagtgggt	actcaagctc	aaaagggttt	ttttaagagc	aagcattggg	taagtctgtg	780
tatactgagt	tgggaagtgat	ttcagcacat	tcttttttag	tggagtgaag	gttctgaagc	840
ccccttttaa	cttctctctg	gtttttcatt	ataattggta	gccatctcat	gaactgtctc	900
tgactgttgt	ctcttttgtg	tcatgtgatt	gtgagcttgc	tttctgactt	gcattttctga	960
ctttatcctg	ttgttaggaa	gatagaaaact	aggttttgaa	agattacatg	attcaagcga	1020
gggattttta	agtaaaagat	tattttattct	gaagaatcta	aaagataaca	gattattttgc	1080
ttatgaaaga	acaatatagt	ctgggaatcc	cagaatgtca	agccaaaggt	ctaagaagtc	1140
atctccttca	aatactttaa	taaagaagta	tttcgagatg	atcatctgtc	aaaaaggttt	1200
gactggcctc	cagattccag	ttatttttaa	aaagcaactt	accactaaat	ccttgagctt	1260
ccatagagta	acagtaaaga	aactgatgta	acagactctc	ctctcaaagg	atctcctctg	1320
gaagagacta	tcagcggcag	cattctccag	ggaagaccca	tcccctagtg	ccagagcttg	1380
catcctggag	actaaagatt	gcactttttt	gtagtttttt	gtccaaatgc	aatcccattt	1440
ctgtgcctct	tagcatgcag	ttagattttg	acaaacaaga	ttcctaagga	atgactttat	1500
taactataat	atggttacag	ctattatata	aatatatatt	ctggttatag	ttctaatatg	1560
gagatgttgt	gtgcaatgct	ggcctgttgt	ggtctgtgta	atgctttaac	ttgtatggag	1620
gaggccaggc	tcagagctga	gatgtggcct	gaaccttccc	tgtatcgatc	ctttattttal	1680
gaactgtcaa	gatgtcactt	tctccccctc	tgctttttag	tggtatctga	catataactca	1740
aaacagtaat	ttcctggtoa	catcattaac	tgcataattct	gtatttataa	agaattttca	1800
gatggacatg	tacaaatttg	aactcaaaac	atccccagtc	cagatacagg	gcagcgtgta	1860
ggtgaccaca	ccagagcctc	agcctcgggc	cttctcagcc	gtcgggatag	gatccaggca	1920
tttcttttaa	atctcagagg	tagcagtaaa	cttttcagta	ttgctgttag	caagtgtgtg	1980
tttgccaata	gatacccat	atactaattg	gccaaagtaa	tgttcattgc	acatctgctt	2040
ccactgtggt	cccacgggtg	ccatgaagtg	tgtgaggagc	ccctcatctg	gagggatgag	2100
tgctgcgttg	actactgcta	tcaggattgt	gttgtgtgga	atattcatct	acataaattt	2160
tatatgcaca	gtaattttccc	tttttatatg	tcaagtaact	atttgtaaaa	gttataactca	2220
caaattatta	taatgtttac	taatatattt	tttccatggt	tcattgcctg	aataaaaaact	2280
gtttaccact	gttaaaaaaa	aaaaagtaaa	aaggaggag	tgggaaaaaa	aagctggggg	2340
ggggggcccg	tagcc					2355

## (2) INFORMATION ON SEQ ID NO. 105:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1339 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 105:

attcggcagc agcatgaaac atgctcattt tacctaacag taaacaagta tgttttgata 60  
gatatctgtt aatatgctta tagtggttaag aaatggactt gaggtcccag gagatttcat 120  
tttattcacc ctgggtcagat acaataaagg ctatgagtat aaatacataa cttcctaacc 180  
agggtgtaggg catgttcatg aatatcaaat cttttgatgc tggacccaag agaggaaaag 240  
ttgtagctaa atgttgattt acttataact agacgtctat gtgagaaaat atatgtatac 300  
atatatatga tatgcagaag tcactttttt tatcaggctt tattctcctt acaaagccac 360  
agtttaactg tctgcaacag ttggtttatg ttaatgatag acaaataccc agtgtttggt 420  
actttttcca actaccactg taatgataat ctttctcacg tatatacatg caacttcttg 480  
gcttcatttc catgaagctg tttcaatata ttcagtatac tttgtcctta atgctgcttc 540  
tgtaaacagt gatctctttc tttttttcat tcttatatct tcattagttc atcataaatc 600  
tgtccagttg aggccctcagg accacggcat gatttcatga ctccgaagta ttttacagaa 660  
acatttttta aataagggaa atattttata taccagatgg ttcacaagtg atggctcata 720  
gctagttttt ttttttcttc taaaaaatgt caggttttta aaatcattta ccttattaaa 780  
atgaaaagtg ccatacttaa ctttttaaagg aaagacctga cttgcttttt ctctatttag 840  
actgtttttg tactttacta atctttaaac tatcaggaaa aaaacccaaa ctttatacca 900  
atgatttagt aattttgagg catagggtag cttacgtagt ggaggatgtg ccaaattatc 960  
tcttcaaatg ccaccttctc aattttatac taaaatagtg ttatctgact aattcctctg 1020  
aattttgatg taagatctat ataggcccc aaaatgatcg tagtacatgc cagtcatttc 1080  
tcagtgaat aaatacaata ccagagtaca ttatgggttt tattgctttc ttttatggta 1140  
gacctgttaa tgggggaaaa atacatcaaa tcaaatagaa tcttatatct gtatgttaaa 1200  
atagagcact tacctgaagt cagtggcctg gatcatagcc ctggatcatt tcccagtcgt 1260  
tcctgtgctg ggtggacctt ggacaaggcg ctgcagtagg tgatggctga gagcccttccl 1320  
ctgttcccaa gtgccttgt 1339

JUN 1997 09:52:55

(2) INFORMATION ON SEQ ID NO. 106:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 3751 base pairs
  - (B) TYPE: Nucleic acid
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
  - (A) ORGANISM: HUMAN
  - (C) ORGAN:
- (vii) OTHER ORIGIN:
  - (A) LIBRARY: cDNA library

gatacgcgagc	ggccttttga	atctatttgcg	caaaagaagt	ttcatttttg	ttacttagac	60
ctaagatcac	ttattaaaaa	tccttatttt	ctccaagccc	agcaaacgtt	gacttctggg	120
caaacctgaa	aacctgaaaa	tgccactttc	atgcagtttg	tttgaagtta	agtggaatcc	180
tttcaaata	cgagctgcag	agaactcagc	accaagggct	gcctatctgt	agatagctgt	240
aaaatggaat	atttttaaat	gaaggcaaat	aagtacttaa	aagtgcagctg	agcaataaaa	300
tgggtccaata	ataggtaaat	gcaacagaaa	cagaaggaga	cctgggttgc	ttatgccttt	360
actcttacat	ggaataaaat	cccaatgcac	atcctatgta	aaccataagt	gaagggaat	420
aaacctctgc	atgctccatg	ctgtgaggtg	tcctttggat	attctgtgat	gacagagaag	480
cctattttgt	ttgtttttca	gcacatcttct	ctgatgtacg	tttttaagga	ttttgttaaga	540
gctgtttttca	gtgttttaaat	tagtgctatt	tttccttgtt	tttaaaaatg	aatctcgtac	600
tgtatcttac	tatgtccata	cagatgttac	aaatcgacag	ttttattctt	agactcatgt	660
gatccaagct	gtatatacca	tataataaca	ttttacatga	atcatttagt	tttttaattc	720
atttactaat	gctataaaaat	ttccttatatt	accccagtaa	tttgcacacg	ctgggtttata	780
tactaaagca	acatgtttttg	atgagtttct	tacatcccta	tcgaggaatt	gggttaggaa	840
aaaatacata	attgtaaaaac	tgagtttgct	gtattatact	ttttttcttg	agtattagtt	900
gtattactaa	tcatatgttg	attaactgtc	tactaaaagt	caaggtacct	gtatttttaa	960
tcactaattt	ttttttttgt	tgggaaatag	atttcaggtc	ttttattaga	ctaacattttt	1020
ttgagaagta	aaattgactt	catatacaaa	gcctgtaatt	ttaggcgaaa	tggaaagcaga	1080
aatctaggaa	gttgtgcttg	cttgatgtt	gagtttggtc	tcagactaag	taatgcatca	1140
gaattcatct	gtttgaagcc	tgaataaatt	taggactctg	attcactgac	caaaagtcag	1200
tgttgacag	atctctctac	cccgatggg	atttgttag	attgttcaac	aggaagcaca	1260
tgattgagaa	catcttgggg	cagacccaaa	ccactgacag	atggcaaggc	tcggcgatttc	1320
tgatttccct	tctcaaatct	gctcaactcc	aagagtcttg	agaaaactgt	aaaattttgc	1380
ctctgtcact	caagctttac	aaatgttatc	ttgtaaacct	ttgaggtgaa	ctattccact	1440
gtcttgtaca	taggcatctt	attcactgca	ccctgtcaca	cccgacccc	cccgccccgc	1500
acattatttg	aaagactggg	aatttaattg	ttagggacag	taaatctact	tctttttcca	1560
gggacgactg	tcccctctaa	agttaaagtc	aatacaagaa	aactgtctat	ttttagccta	1620
aagtaaaggc	tgtgaagaaa	attcatttta	cattgggtag	acagtaaaaa	acaagtaaaa	1680
taacttgaca	tgagcacctt	tagatccctt	ccctcccatg	ggctttgggc	cacagaatga	1740
acctttgagg	cctgtaaaagt	ggattgtaat	ttcctataag	ctgtaatagt	ggaggtattg	1800
tgggttcatt	tgagtaagcc	ctccaaagat	accattcaaa	taacctggga	gaatgtcata	1860
aattattcag	ataatttaac	ctgcacgaat	ctgattcaga	ggcatgcatt	tacatatgtt	1920
gcctaattca	ccatttgatg	atcataaata	caagtgaatg	acattggact	tttagtaaca	1980
aacttaattt	ttaaaaaggt	gtagacaatg	tggtttaaaa	aaaaaaaaaa	aacaggtacc	2040
aggttctgtg	tgtttgcaac	aagtaattga	catgtttttt	gttttaataca	tgtggaccat	2100
gaacagtatt	cattctactt	tttcaaata	tatgctgtag	aaaatatctc	ttgaagatgt	2160
gagatttaaa	aatttttccc	tttcaatgtt	gttttaattg	tatttctttc	ttgggttttt	2220
tgattgatag	cacagtgata	aatcataata	ctagacaaaa	ttgtcttctc	tttcaaacca	2280
gagccatata	tatgtctgta	tatatgggac	ctactgcttc	tctgaggaaa	tgcataatct	2340
gttaatatca	gacaaaaatg	gcaattggca	gtgctcataa	tatatcccaa	tttttatggg	2400
aattttcgat	ggaagtgtat	ttcaataaag	ccatgtaagg	tgaacctttg	ataacttttt	2460
actcttcaag	ttaggtgtaa	ttctgatcca	atattcaatt	caatttgtga	ctccacatg	2520
caaaatgcta	aattacaatg	cagacattaa	gaaaaagtat	tgactggagg	ggttgaatttc	2580

cttgagaatt	tattttatatg	tctaaatcac	aaatacttta	ctcaatttag	tttttaaaat2640
agtaaaactga	atatttttgt	tgtaaagccta	tcagagtc aa	tccttcggtt	ggaattggtt2700
tcctgttttt	ccttactata	aatcattttaa	aaactgaatt	cattttctta	gatggcataa2760
gtctgtctct	tgagaaaataa	gtaaaatact	cctatttttca	gtatctgtag	cacctgaaat2820
aggctcttgt	atagccagaa	acaagttatg	ttgaagttag	cttttctttg	tcaacagttt2880
tggacaataa	aaatctgaaa	gtattaacac	ttgattttct	actggggccc	ttcaaacttg2940
gttgaagaa	attcaaccag	aatatctaca	ttagagtata	atcatgtgtg	gtaggaagat3000
ggactagtta	atcaagattt	gttgtcactt	aaattttttg	tgattttttt	ccaagccagt3060
ttttttaaat	tctaaatgtg	ttttgaggta	tgggtacatt	aattgtaatg	taaactatta3120
tacaactggt	tttgcgactt	tataggcgag	taaattttgc	tattactatt	gaatacaaat3180
gacaattcat	ttatgaccac	tcaaacagcg	ttagtaacca	tttagtgaca	aaggattaaa3240
acatccatct	ggatgttaat	tttgaagatg	taaattatat	gttggtttaaa	tttttccagg3300
catctgaaaa	ccttatctgc	tagacaatgt	aagattcaca	cagagttatc	tgggattctg3360
atttttttaa	tagtacatat	cattaaacca	ttttctctaa	atgtaagaag	agcagaaaaa3420
atcttataag	attatcagat	ttttctaattg	acacagaaat	gtaagaaaaa	aatcccttta3480
tattgaaaaa	agatgcagtc	aaagctctttt	cagacatgcc	caaactttga	gaattttctt3540
aaccacttaa	tgtatataag	atttttgttc	ttcctgttca	caaccagttg	tataacagaa3600
atactagcta	ctgttttccct	tcctgtgtgt	gaagtaattga	atcattgatt	atgtgacttg3660
ttatgtattc	aattaaaacac	taaagaataa	aacattcact	cctttaatta	ataaaaaaaaa3720

## (2) INFORMATION ON SEQ ID NO. 107:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 300 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 107:

cgctcggccc ccgcgagag atcgaggtgt acttgcccaa gagtctggcg gaaaagctgt 60  
atctatgtca gtaccctgtg cgtccagcct cgatgacctt cgatgacatt ccgcacctct120  
cagccaagat caagcccaag cagcagaagg tagagcttga gatggccatc gacaccctga180  
accccaacta ttgccgcagc aaaggggagc agattgcgct gaacgtggac ggggcctgcg240  
ccgacgagac cagcacgtat tcctcgaagc tgatggacaa gcagaccttc tgctcttccc300

## (2) INFORMATION ON SEQ ID NO. 108:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1465 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 108:

```

gccaaaccttc cctcccccaa ccttggggcc gccccagggc tccctgcgcac tgcctgttcc 60
tcctgggtgt cactggcagc cctgtccttc cttagaggac tggaaacctaa ttctcctgag 120
gctgagggag ggtggagggt ctcaaggcaa cgctggcccc acgacggagt gccaggagca 180
ctaacagtac ccttagcttg ctttcctcct ccttcctttt tattttcaag ttctttttta 240
ttttctccttg cgtaacaacc ttcttccctt ctgcaccact gcccgtaacc ttaccgcgcc 300
cgccacotcc ttgtaccccc actcttgaaa ccacagctgt tggcagggtc ccagctcat 360
gccagcctca tctcctttct tgctagcccc caaagggcct ccaggcaaca tggggggccc 420
agtcagagag ccggcactct cagttgccct ctggttgagt tggggggcag ctctgggggc 480
cgtggcttgt gccatggctc tgctgaccca acaaacagag ctgcagagcc tcaggagaga 540
ggtgagccgg ctgcagggga caggaggccc ctcccagaat ggggaagggt atccctggca 600
gagtctcccg gagcagagtt ccgatgccct ggaagcctgg gagagtgggg agagatcccg 660
gaaaaggaga gcagtgtctc cccaaaaaca gaagaagcag cactctgtcc tgcacctggt 720
tcccattaac gccacctcca aggatgactc cgatgtgaca gaggtgatgt ggcaaccagc 780
tcttaggcgt gggagaggcc tacaggccca aggatatggt gtccgaatcc aggatgctgg 840
agtttatctg ctgtatagcc aggtcctgtt tcaagacgtg actttcacca tgggtcaggt 900
ggtgtctcga gaaggccaag gaaggcagga gactctattc cgatgtataa gaagtatgcc 960
ctcccacccg gaccgggcct acaacagctg ctatagcgca ggtgtcttcc atttacacca 1020
aggggatatt ctgagtgtca taattccccg ggcaaggcg aaacttaacc tctctccaca 1080
tggaaccttc ctgggggttg tgaaactgtg attgtgttat aaaaagtggc tcccagcttg 1140
gaagaccagg gtgggtacat actggagaca gccaaagact gagtatataa aggagaggga 1200
atgtgcagga acagaggcgt ctctctgggt ttggctcccc gttcctcact tttccctttt 1260
cattcccacc cctagactt tgattttacg gatattctgc ttctgttccc catggagctc 1320
cgaattcttg cgtgtgtgta gatgaggggc gggggacggg cgccaggcat tgttcagacc 1380
tggtcggggc ccactggaag catccagaac agcaccacca tctaacggcc gctcgaggga 1440
agcaccgggc ggtttgggag aagtc

```

## (2) INFORMATION ON SEQ ID NO. 109:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1488 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

"SEQUENCE" DATA

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 109:

cggcgggagg agcaggatgg agatccctgt gcctgtgcag ccgtcttggc tgcgcgcgcg 60  
 ctccggccccg ttgcccggac ttccggcgcc cggacgcctc tttgaccagc gcttcggcga 120  
 ggggctgctg gaggcgcgagc tggctgcgct ctgccccacc acgctcgcgc cctactacct 180  
 gcgcgcaccc agcgtggcgc tgcctgtggc ccagggtgcg acggaccccg gccacttttc 240  
 ggtgctgcta gacgtgaagc acttctcgcc ggaggaaatt gctgtcaagg tgggtggcga 300  
 acacgtggag gtgcacgcgc gccacgagga gcgccggat gagcacggat tcgtcgcgcg 360  
 cgagttccac cgtcgcctacc gcctgcgcgc tggcgtggat ccggctgccc tgacgtccgc 420  
 gctgtccccc gagggcgtcc tgtccatcca ggccgcacca gcgtcggccc aggccccacc 480  
 gccagccgca gccaaagtagg agggggctgg gccgcgcccg caccocggga gcctcctcag 540  
 gctccctcta ttaaagccga tctgactccg ccagccaga tgtcccgagt gcgccaagga 600  
 ctgtcctctc acccactcct ggattctgcc ctgacctcca tccctggacac tgcccttgata 660  
 acatagaccc ttccactgac accctcgcct tcagagcccc tccagctttc cgacccaca 720  
 ccgacaactc ccgcgtctcc agaccctacc agcactaccc taaccctcag ccgacagtct 780  
 cagccccacc gaccacttt cttggcatat agccccactt aagacccctc ctctacttcc 840  
 ttctgagtc tctacaaaga catccgggta ctacatttcc atcccttccc tattttgaca 900  
 ccaaattatg gtgtagacag ccctggccca accccaggcc agtcaggcac aatcccccca 960  
 cccccaaaac gtccctggact gcacagacct cccactccag accatccagg cctggttccc1020  
 aagaccgat ccttcccctg caaccagaca gtctacaact gccccctcca gccatttttc1080  
 tgccgtgaaa cccagccag ccacaccaga ctctggaacc ctttttcgac tgccccaact1140  
 cttggacacc aggccaacta gaacacccaa caccaaactg tacagactct cccaccccaal200  
 cctcccaga ctctgcacgg atgtcctagg cccctcccc aactotaacc agaccccatc1260  
 cccctaagtc cctttgtctt gacccccaag tcttcaacca gatatacctg gcaacccacc1320  
 tcccaccctc ctccctcttct ccttcaagac ccaactgagc acccgctctg attccccaca1380  
 gcctttctcc ctgccaccac tcccttagtc tttcccaggc ttactctccc aataaatgtg1440  
 ctagagctct gccaaaaaaa agaaaaaaa gtcgacgcgg ccggaatt 1488

## (2) INFORMATION ON SEQ ID NO. 110:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 783 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library



## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 110:

```

aacatattgt tgaaaggtaa tttgagagaa atatgaagaa ctgaggagga aaaaaaaaaa 60
aaagaaaaga accaacaacc tcaactgcct actccaaaat gttggtcatt ttatgttaag120
ggaagaattc cagggtatgg ccatggagtg tacaagtatg tgggcagatt ttcagcaaac180
tcttttccca ctgtttaagg agttagtgga ttactgccat tcacttcata atccagtagg240
atccagtgat ccttacaagt tagaaaacat aatcttctgc cttctcatga tccaactaat300
gccttactct tcttgaaatt ttaacctatg atattttctg tgcctgaata tttgttatgt360
agataacaag acctcagtgc ctctctgttt ttcacatttt ccttttcaaa taggggtctaa420
ctcagcaact cgcttttaggt cagcagcctc cctgaagacc aaaattagaa tatccatgac480
ctagttttcc atgctgtgtt ctgactctga gctacagagt ctgggtgaagc tcacttctgg540
gcttcactct gcaacatctt tatccgtagt ggggtatggt gacactagcc caatgaaatg600
aattaaagtg gaccaatagg gctgagctct ctgtgggctg gcagtcctgg aagccagctt660
tcctgcctc tcatcaactg aatgaggtca gcatgtctat tcagcttcgt ttatttttca720
agaataatca cgctttcctg aatccaaact aatccatcac cgggggtggg ttttaagtgg780
gct

```

783

## (2) INFORMATION ON SEQ ID NO. 111:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1045 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 111:

```

tctgttctgt ggacaactgt tactgttctt cagtggccaa ccatggcggc caccagccct 60
acccccgctc cgccactttt cactggacag tgccctcgca ggagtactca caccgctcc 120
cgccacacc ctccgtcccc cagtccttcc ccagcctggc ggtcagagac tggcttgacg 180
cctcccagca gcccgccac caggatttct acagggtgta tgggcagccg tccaccaaac 240

```

```

actacgtgac gagctaacgc cacgcaggcg gcggggcgct ggggaatctt cctccccagc 300
ccccgggctc gggagttatg catccagaga cctgcccttc taccttcttc gcctccccctc 360
ttcctcattc cattgcccc ggtcttttcc ttttgattt tggtttgggt ttggctttgt 420
ttttgatttt tttttattat gaatctcctg gacgcagagg tgacagtggg agctggcctg 480
ggccaggacg gcagggtggc ctggagatgg gaaagtgtct gtgtcgaggc gctgagctct 540
ctctctgttt ctctttttt cctctactcc tcccccttca cccccctg gctggaagga 600
acctcggtt ccctgaaagc ttgggggtcc cacccttctt accccacccg ggaggaacgc 660
ccagggtccc gggcttgttt ctctcttgt tttcttttg ggcagtttga tctactgatcg 720
agtaaggaat gacctttaga ttgtgcgact tttgttttg tttttttaaa tttttttaaa 780
ccaagaatga tttctcctgc ttccttctcc tcaccatctt cccagacgga gttcaaaggc 840
cactttctca gcagcttttg gcaccttcag cctcagagt gaatctttta aagacaggac 900
ccctatgtcc aggaaagggg aaaaggaact ttgccaatga tagtgaccac agcaaaagca 960
aataataata atattaataa taataaaaga gaaaaaaaaa aatagaataa aaaaccaata 1020
gcacagcccc ttgttgaagg tccag 1045

```

## (2) INFORMATION ON SEQ ID NO. 112:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1386 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 112:

```

cacactcact gcccatgaag gaagaggggg caagtgtacc gaggaagggg atgcctcaca 60
gcaagagggc tgcaccttag gttctgacct catctgectc agtgagagcc aggtttctga 120
ggaacaagaa gagatgggag ggcaaaagcag cgcgggccag gccacggcca gtgtgaatgc 180
agaggagatc aaggtagccc gtattcatga gtgtcagtggt gtgggtggagg atgctccaaa 240
cccgatgtc ctgctgtcac acaaagatga cgtgaaggag ggagaagggtg gtcaggagag 300
tttcccagag ctgccctcag aggagtgaag gggacaattt ggctgaagtc tttctctgaa 360
aaaagccaaa gggttatagg ggtacactta ggggttgcac gcaagctgtt accaaaaaat 420
ttttaagtat tttcttaatt tgaataataa aaccagagga aatgcataca gggcatgagc 480
aactgaggca aaccttttgt gacatgaatt gttctacgat gaatttttgc tttagtattt 540
taataagaat tacaaagaca atggcatact tggggtgaga gggagctgag gatgtctgag 600
gaggaagatg tattgcaggg aagactgaga aaacagtagg atgacagttt tgagtatact 660
ctgcactttt caattgtgca atcttcttgt gcactttaag gctttttaat tttgtttgag 720
aatgcaaatg tatactgtaa gtctaccttt actatctact atgcctactt caccatctct 780
taaggactcg gcatttgtcc acagtcagac tgcaagagag ggtaggtcat gaacagtcac 840
ccgtgctggc ttagcctccc acagaggcaa tcatgcccac tagattcaag agaagctaag 900
cggaaatgga ggggtgaagg tgtgatctgt gggactgtct gggcctgtta ctcatcctgc 960
tatcaatttc ttattaatta atcttgatga ttcttattaa ttaatcacat ttgcaggaaa 1020

```

```

ttcagatgag gcaagaaaat tttattggcc tgggtaagac tgaaagcatt ccaaattagg 1080
cttagactgt gcaaaagggt tagctaagtt atcgagctta aaaccctgca attaaacaaa 1140
cattatttga acagttactg catgccacgc actgtgttgg gcttagtaat aaaaaaaga 1200
aaagataagt gcttgttcta gcataaatta aaaggtccaa ggaatttaa tctggaagag 1260
aacatatgcc aattttttaa ctatgacagc ttttttttcc tctttccatt caaataggcc 1320
cgggttcagt ccagaaaggg cacaaaatga atgaataaat aaataaatga ataaagaca 1380
aaaaaa 1386

```

## (2) INFORMATION ON SEQ ID NO. 113:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1747 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 113:

```

ccagtcctgtg agcccttgct ctgtgggtcc ccaccgtctg tcgccaatgc agtggcaact 60
ggagaggcac acacctatga aagtgaagtg aaactcagat gtctggaagg ttatacgatg 120
gatacagata cagatacatt cacctgtcag aaagatggct gctgggtccc tgagagaatc 180
tcctgcagtc ctaaaaaatg tcctctcccg gaaaacataa cacatatact tgttcattgg 240
gacgatttca gtgtgaatag gcaagtttct gtgtcatgtg cagaagggtg tacctttgag 300
ggagttaaca tatcagtatg tcagcttgat ggaacctggg agccaccatt ctccgatgaa 360
tcttgcaagtc cagtttcttg tgggaaacct gaaagtccag aacatggatt tgtggttggc 420
agtaaataca cctttgaaag cacaattatt tatcagtgtg agcctggcta tgaactagag 480
gggaacaggg aacgtgtctg ccaggagaac agacagtggg gtggaggggt ggcaatatgc 540
aaagagacca ggtgtgaaac tccacttgaa tttctcaatg ggaaagtga cattgaaaac 600
aggacgactg gacccaacgt ggtatatccc tgcaacagag gctacagtct tgaagggcc 660
tctgaggcac actgcacaga aaatggaacc tggagccacc cagtccctct ctgcaaacca 720
aatccatgcc ctgttctctt tgtgatccc gagaatgctc tgctgtctga aaaggagttt 780
tatgttgatc agaatgtgtc catcaaagt agggaagggt ttctgctgca gggccacggc 840
atcattacct gcaaccccg aagacagtg acacagacaa gcgccaaatg tgaaaaaatc 900
tcattgtgtc caccagctca cgtagaaaat gcaattgctc gaggcgtaca ttatcaatat 960
ggagacatga tcacctactc atgttacagt ggatacatgt tggagggttt cctgaggagt 1020
gtttgtttag aaaatggaac atggacatca cctcctatct gcagagctgt ctgtcgattt 1080
ccatgtcaga atgggggcat ctgccaacgc ccaaagtctt gttcctgtcc agagggctgg 1140
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cacgaccatc tggctctccc aaaagcagga tcattctctc tcggtagtgc ctgggcatcc 1440
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gctctaccct cacaaaatgt acatattctg ctgtctattg ggaaagtccc tggtagacat 1680
ttttattcag ttacttaaaa tgatttttcc attaaagtat attttgctac taaataaaaa 1740
aaaccgc

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1747

"BEE" DATA

## (2) INFORMATION ON SEQ ID NO. 114:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1526 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 114:

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cgagcccaca ggccccggag tagcagcggg gaggcgggga gcccgcgggc cggagccgcc 60
cggccgaggc gtggggggtg cggggccggc ccatccgttg gggcgacttg agcgttgagg 120
gcgcgcgggg aggcgagcca ccatgttcag ccagcagcag cagcagcagc tccagcaaca 180
gcagcagcag ctccagcagt tacagcagca gcagctccag cagcagcaat tgcagcagca 240
gcagttactg cagctccagc agctgtctca gcagtcacca ccacaggccc gttgccatgg 300
tgtcagcggg ggtccccgcg agcagccaca gcagccgctt ctgaatctcc agggcaccaa 360
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aggactggag cagtttgcaa tgccaccagc cacgtatgac actgccggtc tcaccatgcc 480
cacagcaaca ctgggtaacc tccgaggcta tggcatggca tccccaggcc tcgcagcccc 540
cagcctcaca cccccacaac tggccactcc aaatttgcaa cagttctttc cccaggccac 600
tcgccagtc ttgctgggac ctctctctgt tggggctccc atgaaccctt cccagttcaa 660
cctttcagga cggaaccccc agaaacaggc cggacctcc tctctacca cccccaatcg 720
aaaggattct tcttctcaga caatgcctgt ggaagacaag tcagaccccc cagaggggtc 780
tgaggaaagc gcagagcccc ggatggacac accagaagac caagatttac cgccctgccc 840
agaggacatc gccaaaggaaa aacgcactcc agcacctgag cctgagcctt gtgaggcgtc 900
cgagctgcca gcaaagagat tgaggagctc agaagagccc acagagaagg aacctccagg 960
gcagttacag gtgaaggccc agccgcaggc cggatgacag taccgaaaca gacacagaca 1020
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ctgcaggctc aggcccagggt gcagtcacag actcagccgc ggataccatc cacagacacc 1140
caggtgcagc caaagctgca gaagcaggcg caaacacaga cctctccaga gcacttagtg 1200
ctgcaacaga agcaggtgca gccacagctg cagcaggagg cagagccaca gaagcaggtg 1260
cagccacagg tacagccaca ggcacattca cagggcccaa ggcaggtgca gctgcagcag 1320
gaggcagagc cgctgaagca ggtgcagcca caggtgcagc cccaggcaca ttccacagcc 1380
cccagggcag gtgcagctgc agctgaggaa gcaggtccag acacagactt ttccacaggt 1440
gcacacacag ggcacagcca agcttccagg cacagggagc ttcttcgggg cgcggtgttc 1500
agtttcaggc caccaggggc agggcc

```

1526

"BIBLID" 0101-0101

## (2) INFORMATION ON SEQ ID NO. 115:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1205 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 115:

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cccgagaaaa accaatttaa tgcttctgtt ctcagcattt cacagcatgc aggactcaaa 60
tggatacaac agaagaaaac aacccacaat ttttggaaaa ccctttgtcc aatgattcat 120
atthttgatat ctattgacaa tcccttagaa ctttaaattc caaaaacaaa aaagtactgt 180
ggatctccct cgagccgaat tcggctcgag ggcggtcacc tggagatgag aaaggcccgc 240
ggggggggacc atgtgcctgt gtcccacgag cagccgagag gcggggagga cgctgtctgc 300
caggagccca ggcagaggcc agagccagag ctggggctca aacgagctgt ccgggggggc 360
cagaggccgg acaatgccaa gcccaaccgg gacctgaaac tgcaggctgg ctccgacctc 420
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gtcatcattg gccttaaccc cctgcctgat gtccagggtg acgacctccg tggcgccctg 540
gatgccccagc tccgccaggc tgccggggga gctctgcagg tgggccacag ccggcagctt 600
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tcccacagtg tggtagaaaag tcttgaataa acacttttgc cttcaaaaaa aaaaaaaaaa 1200
aaaaa
1205

```

## (2) INFORMATION ON SEQ ID NO. 116:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3968 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

123456789101112131415161718192021222324252627282930313233343536373839404142434445464748495051525354555657585960616263646566676869707172737475767778798081828384858687888990919293949596979899100

ggattttctta	aaacataaag	aggagaatta	agtcagctgc	agaacaatgg	ggctgattct	60
tctgcttttt	ctctgaaaaa	tctttcattg	cttttggtgg	aaatttacct	agaggttaca	120
accacaggat	gtagcttggt	ctcttatttg	cctttttggg	aaaccaatta	agattaatac	180
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aaaaggcttc	ttatggtgca	gcaggaaaaa	agatcatttt	tatagctttg	cattcttaac	360
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 aagctagact cctacagggt cctagagttt aagtaatttt tttgttatta atataggtaa3120  
 taatttttct aattttttatt ttttggttcc aaatgtaaag ctcccttgtgt ttacctctgt3180  
 ttatgtcatt cttgacatgt ttatctaaat tatgtgtgct ctgtgacagg tgaaatgtaa3240  
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 tttagctgagc acaaaatttg ggccctgatt tgtgctgagt atctttcaca gattactgct3900  
 tttaatcagc agtccttgtg agctaggtat gatcattatc cccatttata gattacggat3960  
 gagattcg 3968

## (2) INFORMATION ON SEQ ID NO. 117:

### (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 798 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

### (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

### (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library



## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 117:

gtaatgggaa atttgggtgtg ctgaatcttc ttctaggat attgatatat tccacgcttc 60  
 tagtgggtat tctgggaatt ttaccctgct cagtatttgc cctagggtag tagaaagagg120  
 agattgtcca aacttagcag tatgggtccat ctctgttaga agtggaaatg tcatacaggal80  
 tagcaaacac tcttgggttc tttttgcccc ggcttgcccc gagccggcaa cagcaacaaa240  
 atgtggagga tgcaatgaaa gagatgcaaa agcctctggc ccgctatatt gatgacgaag300  
 atctggatag gatgctaaga gaacaggaaa gagaggggga ccctatggcc aacttcatca360  
 agaagaataa ggccaaggag aacaagaata aaaaagttag acctcgctac agtgggtccag420  
 cacctcctcc caacagattt aatatctggc ctggatatcg ctgggacgga gtggacagat480  
  
 ccaatggatt tgaacagaag cgctttgcca ggcttgccag caagaaggca gtggaggaac540  
 ttgcctacaa atggagtgtt gaggatatgt aactttcctg aggctgtggg ggtggctggg600  
 ctgtggtagt gggcataggc agcgagatat ccagtggtaa cagttgtctg tgctaataat660  
 tggagcccac acagaccagc aacttgttga atgccagttt tgaccacaga agaataattcg720  
 agacctgatg tttggattga ggtacctgta cttcttgggg tgttgacagc agcgggtgttt780  
 ggtgggtttt cagaggaa 798

## (2) INFORMATION ON SEQ ID NO. 118:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1068 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 118:

cccctctctg tgactcagtc tctgagcgtt ttaatacagat ggtgtccccg cgggatcaaa 60  
 cttcagcgtc acagctgagg actggcttcg tgggtccctga tgggagagca tgaacagggt 120  
 gtatgtgaag cccttgagga ccagctcttc caaagtcaaa gccaaagacca ttgtgatgat 180  
 tcccgaactcc cagaagctcc tgcgatgtga acttgagtc a ctcaagagcc agttacaggc 240  
 ccagaccaag gctttcagat tcctgaacca ctcaagtacc atgttggaga aggagagctg 300  
 cttgcagcaa atcaagattc agcagcttga agaggtgctg agccccacag gccgccaggg 360  
 agagaaggag gagcacaagt ggggcatgga gcagggccgg caggagctgt atggggccct 420  
 gacccaaggc cttcaggggc tggagaagac cctgcgtgac agtgaggaga tgcagcgggc 480  
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 gaagaccctt ccagagagaa aataaactag cccagacct cctctaaa 1068

## (2) INFORMATION ON SEQ ID NO. 119:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 4584 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 119:

ctcgagccgc tcgagccgcg gaagtaattc aagatcaaga gtaattacca acttaattgtt 60  
 ttgtcattgg actttgagtt aagattatatt tttaaatcct gaggactagc attaattgac 120  
 agctgaccca ggtgctacac agaagtggat tcagtgaatc taggaagaca gcagcagaca 180  
 ggattccagg aaccagtgtt tgatgaagct agggcttggg gcaagagggc aagcagcagt 240  
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 aagataaatt taaacctgaa aagtaggaag cagaagaaaa aagacaagct aggaaacaaa 540  
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 atgaaaatat tgtcaagagt ttcagataga aaatgaaaaa caagctaaga caagtattgg 660  
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 tgaggaaatt attggttaac aattttatatt aaaagcccat caattttaatt tctggtggtg 780  
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 aaggactggt gtaattttaa aaaaactaag gcagaaggct tttggaagag ttagaagaat 960  
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 aagcttttga gggcagactg ccaagtctct gagaaatagt agatggcaag tttgtgggtt1740  
 tttttttttt acacgaattt gaggaaaacc aaatgaattt gatagccaaa ttgagacaat1800  
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 tgaatagatg acctgttttt acttcctcac cctgaattcg ttttgtaaat gtagagtttg1920  
 gatgtgtaac tgaggcgggg gggagttttc agtatatttt tttgtggggg tgggggcaaa1980  
 atatgttttt agttcttttt cccttaggtc tgtctagaat cctaaaggca aatgactcaa2040  
 ggtgtaacag aaaacaagaa aatccaatat caggataatc agaccaccac aggtttacag2100  
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 ccccttaaac ttgttatatt ttaactgaag catthttggga tgggtctaac aggggaagaga2280  
 gaggggtggg gagaaaaatg ttttttctaa gattttccac agatgctata gtactattga2340

F0509-0402-552

caaactgggt tagagaagga gtgtaccgct gtgctgttgg cacgaacacc ttcagggact2400  
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 cagcttttgg tcatattcag tcatctcagg agaacttcag aagagcttga gtaggccaaa2520  
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 tttcccccca gtttgaattg ggaagctggg ggaagttaaa tatgagccac tgggtgtacc2820  
 agtgcattaa tttgggcaag gaaagtgtca taatttgata ctgtatctgt tttccttcaa2880  
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 gacattaact acaattatgg gaaatgcaaa agttgtttgg atatggtagt gtgtggttct3000  
 cttttggaat ttttttcagg tgatttaata ataatttaaa actactatag aaactgcaga3060  
 gcaaagggaag tggcttaatg atcctgaagg gatttcttct gatggtagct tttgtattat3120  
 caaacttttt tcagataaca tctcttgagt cataaccagc ctggcagtat gatggcctag3180  
 atgcagagaa aacagctcct tgggtgaattg ataagtaaaag gcagaaaaga ttatatgtca3240  
 tacctccatt ggggaataag cataaccctg agattcctac tactgatgag aacattatct3300  
 gcatatgcca aaaaatttta agcaaatgaa agctaccaat ttaaagttac ggaatctacc3360  
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 caatgaagag gcaatgtcca tctcaaaata ctgctttttac aaaagcagaa taaaagcgaa3480  
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 gatgagttgg gatcaagtgg attgaggagg ctgtgctgtg tgccaatgtt tcgtttgcct3600  
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 agcgggaagaa cgaatgtaac ttttaaggcag gaaagacaaa ttttattctt cataaagtga4320  
 tgagcatata ataattccag gcacatggca atagaggccc tctaaataag gaataaataa4380  
 cctcttagac aggtgggaga ttatgatcag agtaaaagggt aattacacat tttatttcca4440  
 gaaagtcagg ggtctataaa ttgacagtga tttagagtaat actttttcac atttccaaag4500  
 tttgcatgtt aactttaaat gottacaatc tttagagtgg aggcaatgtt ttacactatt4560  
 gaccttatat aggaaaaaga tgag 4584

(2) INFORMATION ON SEQ ID NO. 120:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 982 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 120:

```

gtggagggga ccctgtggtt agcagcagct atcgcagcgt cggatgttca gagcagcaga 60
agccggcgctc gtcggatggt gtgttgcccg ccaccatgag ctacacaggc tttgtccagg120
gatctgaaac cactttgcag tcgacatact cggataccag cgctcagccc acctgtgatt180
atggatatgg aacttggaac tctgggacaa atagaggcta cgagggctat ggctatggct240
atggctatgg ccaggataac accaccaact atgggtatgg tatggccact tcacactctt300
gggaaatgcc tagctctgac acaaatgcaa acactagtgc ctcgggtagc gccagtgccg360
attccgtttt atccagaatt aaccagcgct tagatatggt gccgcatttg gagacagaca420
tgatgcaagg aggcgtgtac ggctcagggtg gagaaaggta tgactcttat gagtccctgcg480
actcgagggc cgtcctgagt gagcgcgacc tgtaccggtc aggctatgac tacagcgagc540
ttgacctga gatggaaatg gcctatgagg gccaatatcga tgcctaccgc gaccagttcc600
gcatgcgtgg caacgacacc ttcgggtccca gggcacaggg ctggggcccg gatgcccgga660
gcggccggcc aatggccgca ggctatggg gcatgtggga agaccccatg gggggccggg720
gccagtgcac gtctgggtgc tctcgggttg cctccctct tctcccagaa catcatcccc780
gagtacggca tgttccaggg gcatgcgagg ttggggcgcc ttcccggcg gcttcccggt840
ttgggttttcg ggtttggaac tggcatgaag cagatgaggg cggactggga agacggggac900
cacagccgat ttgcgaacca agaagaagaa gagaaagcag ggcggcattc tgattgagcc960
agttagcaaa gcagccggaa tt                                     982

```

## (2) INFORMATION ON SEQ ID NO. 121:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 742 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 121:

```

ctcaacttgc cactactgcg tgcctcaagc cgacgcagcg gcctactctc gcaactgcaga 60
cggggaaaact gagggcccgag gcggccgggg tggggcagac ctcccggcga gcccgagccc120
ccgcccccggt ctagccccgc cctggcccggt aagaagcacc cggggcgaga ggcgaaggcg180
cacagcgcggt ggccaggctg ggtccagcag cgcgatggca gctcagcggc tgggcaagcg240
cgtgctgagc aagctgcagt ctccatcgcg ggcccgcggt ccagggggca gtcccggggg300
gctgcagaag cggcacgcgc gcgtcaccgt caagtatgac cggcgggagc tgcagcggcg360
gctggacgtg gagaagtggg tcgacggggt cctggaggag ctgtaccggt gcatggaggc420
agacatgccc gatgagatca acattgatga attgttgagg ttagagagtg aagaggagag480
aagccggaaa atccagggtc tcctgaagtc atgtgggaaa cctgtcgagg acttcatcca540
ggagctgctg gcaaagcttc aaggcctcca caggcagccc ggccctcgcc agccaagccc600
ctcccacgac ggcagcctca gcccctcca ggaccggggt cggactgctc acccctgacc660
ctcttgcact ctccctgccc ccggaagcgc gccagcgtt cttgtgtata agttgtattt720
aatggttctg taacaataaa aa

```

742

## (2) INFORMATION ON SEQ ID NO. 122:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2330 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

JUN 1997 10:00:00

gttttgacaa	gttggttttaa	taggaaatag	acctgcgtgc	ttcataggtt	tcctcaacca	60
cctttctctca	gctttctttaa	aatgggatct	acattggctc	ttcacacca	aatagcagac	120
taatcgtttt	tctgcttagc	accgtctggg	tcattgtctt	gaactctgcc	ttacagcagc	180
aagaaaat	tcctcgacaa	gaacctcaat	ctttagttcc	attgagctcc	cctctggat	240
tttggaactta	ccagaagtag	gaggttctga	taccattcaa	gatggtcttt	ccttcaaagc	300
aggctctgaag	aggagactac	caaagcagtg	tttacaacc	cagagtcac	acaaccatat	360
tgcatagaac	agcacttggc	tttcacaagc	ctcctacagg	acctgggtga	attggagtga	420
aagggcagag	accctggaag	tggagggtggc	tgtgtgctgc	gatgggaaga	aggcagaagg	480
cccaggggct	ttggacatag	agcaggggtg	aagctgcaag	tactgggaag	gaagagagtt	540
tcacagaaac	aaagctttgt	cacacagaaa	tgagttctgt	ctcactgggtg	acttcatccc	600
tcagggtcca	gctgagcaga	gatttttaatc	agcttcttta	atgggtattg	acactgctca	660
ggaagcagta	gacctgtgca	gggacagcta	ttgatctttt	gtgttctgat	tagattggaa	720
aatagatcaa	cttcattgta	gtccaggaac	tgttggtcac	agctactagg	aatgaggtga	780
tttctgaggg	ctgagaaaaa	acacagaatc	ttggccagca	gccagcagct	gcatggtgaa	840
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gcttacaacc	cagtgtcccc	gaagcctcc	ttcgggagaa	ctgtaagtaa	gaggtgggtg	960
tgtctaaaga	caataccatt	aatgaatgtt	ctggccttac	ctaaaaaggt	ttagcaattt	1020
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gtaaagagag	tttgaggagaa	aaaagacacc	aggaggcagg	ctgtggggta	ggagaggggt	2040
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aaagggttgtg	cctaccactg	gctggcacac	cagggcaatg	atttccctgc	agaaggaagg	2160
aaagaatgtt	ttcacccttg	catcctttct	gggagaagct	accagcctg	tgcttcagtt	2220
tgagttgggt	tcacattcag	gatttttggg	ttttatgggt	tttccctcct	ccctgtgttt	2280
tgccccgaac	gttgatcaac	aggggtgaaa	aagggccacc	tgagggtttc		2330

## (2) INFORMATION ON SEQ ID NO. 123:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1860 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

```

gaggcagttt gagatcacca gcatttccgt ggatgtctgg cacatcctgg aattcgacta 60
tagcaggctc cccaaacaaa gcacgcggga gttccatgag ggggatgcct atgtgggtcaa 120
gtggaagttc atggtgagca cggcagtgga aagtcgccag aaggagagag actcgggtgag 180
ggcagccggc aaagagaagt gcgtctactt cttctggcaa ggccggcact ccaccgtgag 240
tgagaagggc acgtcggcgc tgatgacggg ggagctggac gaggaaggag gggcccagg 300
ccaggttctc cagggaagg agccccctg tttcctgcag tgttccagg gggggatggt 360
ggtgcactcg gggaggcggg aagaggaaga agaaaatgtg caaagtgagt ggcggctgta 420
ctgcgtgcgt ggagaggtgc ccgtggaagg gaatttgctg gaagtggcct gtcactgtag 480
cagcctgagg tccagaactt ccattggtgt gcttaacgtc aacaaggccc tcatctacct 540
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cccctctgtg gtcagttcca tgcccttctt gcaggaagat ctgtacagcg cgcgccagcc 900
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ccttatccac gctggtctgg agcccctgac attcaccaat atgtttccca gctgggagca 1140
cagagaggac atcgttgaga tcacagagat ggacacggaa gtttccaatc agatcaccct 1200
cgtggaagac gtcttagcca agctctgtaa aaccatttac ccgctggccg acctcctggc 1260
caggccactc ccggagggtt cgatcctctg aagcttgaga tctatctcac cgacgaagac 1320
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ttcaciaagt atttttcaat cagagttttc agaacctgac attgttaaag atactgctgt 1560
tcccggagtt gtgtattttg taaatgttca agggaaactg ttggaaactt ctttccacca 1620
ttcaggaggt tatcagaatt aataaaaagta tctgttatgt gcaacttaagc cgcagctgct 1680
atagatagca ctgccttctt gttccagcta ggcaatgcct tttttttttt tttgaagcag 1740
ttctctttat aaagtgttat tttgatagtt tgtggattct aaaataccat ataagtcaaa 1800
tatggattta acaaagcaat atgtattcat tcactttcga gatgtggggg gttgtttttt 1860

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## (2) INFORMATION ON SEQ ID NO. 124:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 807 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 124:

```

cctttcctca tctctattaa attgtaaaca ggactactgc atgtactctc tttgaggtga 60
atttggaatg gaaggccagg gactatactc tttttaaaat agacatttgt ggggctcaca120
caatatatga aatagtaccc tctaaaaaag agaaaaaaaa aatcaggcgg tcaaacttag180
agcaacattg tcttattaaa gcatagttta tttcactaga aaaaatttaa tatcaaggac240
tattacatac ttcattacta ggaagtctct tttaaaatga cacttaaaac aatcactgaa300
aacttgatcc acatcacacc ctgtttatct tcottaaaaca tcttggaagc ctaagcttct360
gagaatcatg tggcaagtgt gatgggcagt aaaataccag agaagatgtt tagtagcaat420
taaaggctgt ttgcaccttt aaggaccagc tgggctgtag tgattcctgg ggccagagt480
gcattatgtt tttaaaaaat aatgacatat gtcacatgtt tgcattgttt tttgcttgtt540
gaatttttga acagccagtt gaccaatcat agaaagtatt actttctttc atatggtttt600
tggttcactg gcttaagagg tttctcagaa tatctatggc cacagcagca taccagttt660
ccatcctaag aggggaatgga aattaatttt gtaacctact gattaacaga atctgggggt720
cacattggaa aaaaattctt ttatcgtctt ttaaggata tgtttaaata ttattttatg780
tgtcggcata ttgcggacag tctgaga                                     807

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## (2) INFORMATION ON SEQ ID NO. 125:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1932 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO



(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 125:

ccgggggtttt gggctggaac tgcagcgctt agagagctcg gtggaagctg cttaaaggcgg 60  
 aggcgggggt ctggcgagtt ctcttccac cttcccccac ctttctctgc caaccgctgt 120  
 ttcagccctt agctggattc cagccattgc tgcagctgct ccacagccct tttcaggacc 180  
 caaacaaccg cagccgctgt tcccaggatg gtgatccgtg tatatattgc atcttctct 240  
 ggctctacag cgattaagaa gaaacaacaa gatgtgcttg gtttcttaga agccaacaaa 300  
 ataggatttg aagaaaaaga tattgcagcc aatgaagaga atcggaagt gatgagagaa 360  
 aatgtacctg aaaatagtcg accagccaca ggttaccccc tgccacctca gattttcaat 420  
 gaaagccagt atcgcgggga ctatgatgcc ttctttgaag ccagagaaaa taatgcagt 480  
 tatgccttct taggcttgac agccccacct ggttcaaaag aagcagaagt gcaagcaaa 540  
 cagcaagcat gaaccttaag cactgtgctt taagcatcct gaaaaatgag tctccattgc 600  
 ttttataaaa tagcagaatt agctttgctt caaaagaaat aggcttaatg ttgaaataat 660  
 agattagttg ggttttcaca tgcaaacatt caaaatgaat acaaaattaa aatttgaaca 720  
 ttatggtgat tatggtgagg agaatgggat attaacataa aattatatta ataagtagat 780  
 atcgtagaaa tagtggtgtt acctgccaag ccatcctgta tacaccaatg attttacaaa 840  
 gaaaacaccc ttccctcctt ctgccattac tatggcaact taagtgtatc tgcagctcta 900  
 cattaataaag gagaaagaga aataacctgt ctctcattcc taagttgcct cattaatttt 960  
 catgaacaag aatatgtacc tttttgatgc tatattactg cgattaaaaa gttcttgcag1020  
 gtaatgttta tgatatgtta aacgttgtaa tttcttatcg taattataac attcccattc1080  
 tttttagatg gaaacttcta catattgaac cacagatttt ctgagcttct aaatgtagcc1140  
 tttcattgca catttcagtg atcagaatag atatcctttt acacgcacaa aagcaatagal200  
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 atgcctctat tccagcaaaa agtagaagta tcaaaataaaa agggcaactt ttaaaatatt1620  
 aagcctgaag acttctaaaa agacaagaaa catggcctaa ataaccaaca tagatttaca1680  
 tagtaagttt cacactacct tattaccaaa agcaaacacc tcttacttta aactacattal740  
 tcatgtatat ctattgtatg ctggtcttta ctttttgcca aaatcaacat ataatgaagal800  
 gatgcctttg tttcatgaga ttcaaaactg atgctatgct ttaaaataaa ctcagtactt1860  
 ttagaaacat aaaaaaaaaa aaaaaaaggc gacccccga gtagtgggcc cgcgcccggg1920  
 gatttttccg gg 1932

1999-09-22

## (2) INFORMATION ON SEQ ID NO. 126:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3024 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 126:

```

atatatgtta agacattccc ttgctaatta ttttcttctc tgttggttcta tttttttggt 60
ccagtttgct gtttttaaaag ttttgagtcc cagctgggcc tgtacattta actgaaaaaa 120
aagtaactta aaataatata aaaatagcac tcatgtatgt cctacagtta taggtgaaat 180
ttgatattgt ttgtcttaca tagcatacct atagacagct taagtaaagt gactgttaag 240
agggttatgc ttattgatga actctttagt ttgtttacca gctctgttag tatagttaaa 300
ttgatctcag tagcttcaag tatttataaa atgggtgaag tocaaataca tgtgataatt 360
acaatacact ttgaattaat ggggggtggg aggctagtgt aaatgcattt tatttaccga 420
aggagtatgt taaaatgata gttataaatg ttggaagtgt aaagcaagat actcagttaa 480
gttcttttaca aatcataaga agaacaaaat tagatgttga cattgctatt ttaggctgtg 540
tgttttccat atgcttcttg ctttccctgt cacaggtggg ggcagcaata ttggtgtgat 600
tgaggttatg ctggcaccac tcgcacacag gcgcacaatg gtgttagctg ggcagaaaag 660
gtggcatctc tggctaccgg gctgggggag acctttacca taggatgaag taaccttgca 720
ttcggtctga aggtgtactg tacgtacaca ggtgctgggc gatgtccact ttctgctttt 780
ctttctttct ttttttcttt tttaaagtaa tttccccac agtaaaatac actgactcct 840
gagtaaatgt attttccagt tttatggaat tgggagctg acaagtgaag ccaatttaat 900
gtaaagtatt tggctttcaa atggtttctc tgtgctattt tttggaattc tttcagattc 960
cagagatatc ttacgtcttt gattcaattt aaaatttgta cttattttct tttagaaata 1020
atgtattgtg tctgtgcaga aaaaaaaaaa ccaaaaagga ttgctttact ccaagaggag 1080
agattgtctt aggataaacc tccaagctca catttaatat aacagactga agtaaacatt 1140
agaatcctgt ttagagctat tctgcacagt taactactga tctttagaat ctaaaattgt 1200
atatgaactt attcttaaat aattgaaccg ttttatattc aaatgactta tgatcgtggt 1260
tagtttgga gaaaataagat ggttaaattt tgatttattg aaatgtaatt gtattatttt 1320
cataaaatgt cattttcatt ttgtaatgtg gtttaacatc cttggtgttt gccaaagaaa 1380
tttcatttgg cgtgtaatat tctatttgct tgcagtatct gtttctcttc ctaggctcaal 1440
gttggtgacc caagcctatt gtaaacagat gattatctca aaggagatg ccaatggagt 1500
aacaatttgt taaccttacg ttttctgtct gtatattttt ttaaaaatct ggtagtttct 1560
ggaaaaaaaa gagaaggggg tttgtagtac ttaacctat ttatttccgt atattttagt 1620
taattagttt ttggaataaa tggatttcag tatagctttg tgggttaaatt gcattgcctt 1680
tattttatgt ttaggcttat ttttaaatga acatttaaca gaaacatttg aaatagaatt 1740
tgcattgtct ccttaattaa cttaaagact gattttaatc tgactatgac actgagcata 1800
ttcttttaaa tactcataat ttataatgct taatataatc ttaattaaat ttagcagttt 1860
tagtataaga tgtgccattt tgcctctgt atgtctgaat gaagctataa catttgccct 1920
tttattgcag gttttccttt ggaatatgga taaataacac atgatacgga aactagaagg 1980
acatcaccat gatgtggtag cttgtgactt ttctcctgat ggagcattac tggctactgc 2040
atcttatgat actcgagtat atatctggga tccacataat ggagacattc tgatggaatt 2100

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TOPPED: 04/04/95

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tgggcacctg tttccccac ctactccaat atttgcctga ggagcaaata accggtgggt2160
acgatctgta tcttttagcc atgatggact gcatgttgca agccttgctg atgataaaat2220
ggtagaggttc tggagaattg atgaggatta tccagtgcaa gttgcacctt tgagcaatgg2280
tctttgctgt gccttctcta ctgatggcag tgttttagct gctgggacac atgacggaag2340
tgtgtatttt tggggcactc cacggcaggt ccctagcctg caacatttat gtcgcatgtc2400
aatccgaaga gtgatgcca cccaagaagt tcaggagctg ccgattcctt ccaagctttt2460
ggagtttctc tcgtatcgta tttagaagat tctgccttcc ctagtagtag ggactgacag2520
aatacactta acacaaacct caagctttac tgacttcaat tatctgtttt taaagacgta2580
gaagatttat ttaatttgat atgttcttgt actgcatttt gatcagttga gcttttaaaa2640
tattatttat agacaataga agtatttctg aacatatcaa atataaattt ttttaaagat2700
ctaactgtga aaacatacat acctgtacat atttagatat aagctgctat atgttgaatg2760
gacccttttg cttttctgat ttttagttct gacatgtata tattgcttca ttagagccac2820
aatatgtatc tttgctgtaa agtgcaagga aattttaaat tctgggacac tgagttagat2880
ggtaataact gacttacgaa agttgaattg ggtgaggcgg gcaaatcacc tgaggtcagc2940
agtttgagac tagcctggca aacatgatga aaccctgtct ctactaaaaa taaaaaaga3000
aaaaaaaaaa aactcgaaac tact
3024

```

(2) INFORMATION ON SEQ ID NO. 127:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 505 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 127:

```

ctgcacgggc gcagatgtag gcaccgggtcc gagtgccctgc cctctgtccc cgcggctggg 60
tctcgtctgc tccggttctt gggtctctaa ttcttggtcc agcttcttcc aggtctgcgc120
gtctgttggt cccagcgctc tgcgaagctg aaaaggagga gcaacctgtc cagaatcccc180
gcaggacagg aaaaggaggg gaaatctcga catggaaaaa ctctacagtg aaaatgaagg240
aatggcttca aaccaaggaa agatggaaaa tgaagaacag ccacaagacg agagaaagcc300
agaagtaact tgtactctgg aagacaagaa gtagaaaaac gagggaaaga cagaaaacaa360
gggcaaaaca ggagatgagg aaatgtttaa ggataaagga aagccagaga gtgagggaga420
ggcaaaagaa ggaaagtcag agagggaggg agagtcagag atggaggagg tcgagagaga480
gggaacccga ggtaggggaa gcgga
505

```

## (2) INFORMATION ON SEQ ID NO. 128:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 115 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 128:

PRLRLFFFY LRKFISTSTA EIRKWYRFGQ IILYEMDPHT TSFLIQARYN IIPGFSKSSQ 60  
HGYLCYSVLA FIAASSFRRA FFSKFKLVKV SCLWAAFLPS ITMKMHPTTV RAIIR 115

## (2) INFORMATION ON SEQ ID NO. 129:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 82 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 129:

VRDGAPGLSC GFVQNPFILF KSELLVSLRD EETSLSHNLK QLPAARRRPL RLPATCYSA60  
DQRRTPSGTV ALVSSMSPSV GV 82

## (2) INFORMATION ON SEQ ID NO. 131:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 53 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 131:

GIITLSLLMI IHPQMEEFIR QPLQFRLKTG AHRTQGTIKE DQEPFFLSK NWP

53

(2) INFORMATION ON SEQ ID NO. 132:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 52 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 132:

LFILRWRSLS VSHFSFVLKQ EPTGPKELLR RTRNLGFFFQ KIGPSPINEG KN

52

(2) INFORMATION ON SEQ ID NO. 133:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 41 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 133:

KKKPRFLVLL NSSLGPVGSF FKTKLKWLTG KLLHLRMNNH Q

41

"030604" 049509

## (2) INFORMATION ON SEQ ID NO. 134:

- (i) SEQUENCE CHARACTERISTIC:  
    (A) LENGTH: 107 amino acids  
    (B) TYPE: Protein  
    (C) STRAND: individual  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
    (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 134:

ADPAFSTDLF QGCTDMAAAF RKAAKSRQRE HRESSDYRK KQEYLKALRK KALEKNPDEF 60  
YYKMTRVKLQ GGVHIIKETK EEVTPEQLKL MRTSGRQIYR KGRGCRS 107

## (2) INFORMATION ON SEQ ID NO. 135:

- (i) SEQUENCE CHARACTERISTIC:  
    (A) LENGTH: 63 amino acids  
    (B) TYPE: Protein  
    (C) STRAND: individual  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
    (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 135:

RIRRSPLIFS KAVQTWRRLF GRRLSPGSGN TESEAVTTVK NKNTSKLFGR RLLKKIQMNS60  
TTK 63

## (2) INFORMATION ON SEQ ID NO. 136:

- (i) SEQUENCE CHARACTERISTIC:  
    (A) LENGTH: 87 amino acids  
    (B) TYPE: Protein  
    (C) STRAND: individual  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 136:

87

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 137:

95

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 138:

77

## (2) INFORMATION ON SEQ ID NO. 139:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 133 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 139:

DLKQDQGKQK ICIFLKSLGH LLTILLQKTR CSWWSTLSSF ILENIIIEIKV SNPTPGYQVK 60  
 TASLLLGQNC GLLAELFYGL QSKWSYLTHH MTKVLNLVRG KVLNIQFWIQ EIIIVNFPFK120  
 SMERMLVENI LKI 133

## (2) INFORMATION ON SEQ ID NO. 143:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 783 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 143:

FLLQPSAFHL YEPPLDYTMT WRMGPRFTML LAMWLVCSE PHPHATIRGS HGGRKVPLVS 60  
 PDSSRPARFL RHTGRSRGIE RSTLEEPNLQ PLQRRRSVPV LRLARPTTEP ARSDINGAAV120  
 RPEQRPAARG SPREMIRDEG SSARSRMLRF PSGSSSPNIL ASFAGKNRVW VISAPHASEG180  
 YYRLMMSLLK DDVYCELAER HIQQIVLFHQ AGEEGGKVRR ITSEGOILEQ PLDPGLIPKL240  
 MSFLKLEK GK FGMVLLKKTLL QVEERYYPVP RLEAMYEVID QGPIIRRIEKI RQKGFVQKCK300  
 ASGVEGQVVA EGNDGGGGGAG RPSLGSEKKK EDPRAQVPP TRESRVKVL R KLAATAPALP360  
 QPPSTPRATT LPPAPATTVT RSTSRVAVTA ARPMTTTAF TTPRPWTPSP SHRPPTTTEV420  
 ITARRPSVSE NLYPPSRKDQ HRERPQTTRR PSKATSLESF TNAPPTTISE PSTRAAGPGR480  
 FRDNRMDRRE HGHRDPNVVP GPPKPAKEKP PKKKAQDKIL SNEYEEKYDL SRPTASQLED540  
 ELQVGNVPLK KAKESKKHEK LEKPEKEKKK KMKNNENADKL LKSEKQMKKS EKKSQKEKEK600  
 SKKKKGKTE QDGYQKPTNK HFTQSPKKS ADLLGSFEGK RRLLLITAPK AENNMYVQQR660  
 DEYLESFCKM ATRKISVITI FGPVNNSTMK IDHFQLDNEK PMRVVDDDEL VDQRLISELR720  
 KEYGMTYNDF FMVLTVDVLR VKQYYEVPIT MKSVFDLIDT FQSRIKDMEN QKRGVFFEGG780  
 KTP 783



(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 87 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 144:

KMMVGWVWFL RWERMCENLF QNGGFAAEVR MCSCIDLQTP RRWVHTACLG VPRDSRPPTY60  
 LSEARAAGHG PSAKPVCDAL GALVOEA 87

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 97 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 145:

```

SFSSSLGVRNT  LFITEKFALY  FFSSMLVLWT  FGDVSVRAGE  RGVRRPSHRW  SWPPPALSSL60
PDHREPICPS  ENLSQGELKE  TGQGTSEIYF  IMLANRT

```

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 87 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 146:

ASCTKAPRAS HTGLAEGPWP AARASDKYVG GLESLGTPKH AVCTHLLGVC RSIQEHILTS60  
AANFPWKRF SHILSHLKKT HPTTIF 87

(2) INFORMATION ON SEQ ID NO. 147:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 119 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 147:

NSKDKCFSLA FITTPETERW RCCASEPRLL ALKHQGHRTQ AWQRGHGQRH ELQTSMLEVS 60  
NPLAPPSMQC APTFWVSADR YRNTSLPLQR THFPGKDFHT SSPTSCKPTH PQPFFKAPR 119

(2) INFORMATION ON SEQ ID NO. 148:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 87 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 148:

STKGIAHRLG RGAMASGTSF RQVCWRSRIP WHPQACSVHP PSGCLQIDTG THPYLCSEPI60  
SLEKIFTHPL PPQKNPHTN HFLKPHG 87

20250303 10:00:00

## (2) INFORMATION ON SEQ ID NO. 149:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 69 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 149:

DPPSHSQLGR CCHRMVFESV GARAHFWLSQ QLGWHLPSA RNSNIMNARD SVLSKVEHPK60  
GAGHGCSRL 69

## (2) INFORMATION ON SEQ ID NO. 150:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 68 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 150:

SAHLGLPKCW DYRREHPCPA PFGWKTLLST LSLAFIMLLF LALGSKCHPS CCDNQKCALA60  
PTLSNTIR 68

## (2) INFORMATION ON SEQ ID NO. 151:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 57 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 151:

(2) INFORMATION ON SEQ ID NO. 152:

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 152:

SAGIPKLAPK IPLPFSDLLK CYLISGAFPD HTLKTSTPTH GPCPPSRLHF LAYTYQM 57

(2) INFORMATION ON SEQ ID NO. 153:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 32 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 153:

32

## (2) INFORMATION ON SEQ ID NO. 154:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 32 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 154:

TKRAVMKSMH LCAIRAF LVP HSELIDSDYI HF

32

## (2) INFORMATION ON SEQ ID NO. 155:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 31 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 155:

GRVRAVKGRH SDRSHSQQCF QSVNTDEVPT T

31

## (2) INFORMATION ON SEQ ID NO. 156:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 52 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 156:

VQNVMSACNF IFIKAKLIYM EYCSIYYAPI YILSPVVRYF ISLLLNIIFYT YL

52

(2) INFORMATION ON SEQ ID NO. 157:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 59 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 157:

TGTFCEFFICC IENSHTQFSI LCQCSHHGWT LGRNSPQPFL VSFSQFFSVS RWAPVINLP 59

(2) INFORMATION ON SEQ ID NO. 158:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 38 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 158:

LSLCPCWPGN FFQWCLLEEV FSSGQFKEIK LGNGEGGR

38

156-158

## (2) INFORMATION ON SEQ ID NO. 159:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 33 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 159:

GSILDMMQEI SSWSQKFPRG AVFLRNGVYL NNS

33

## (2) INFORMATION ON SEQ ID NO. 160:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 44 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 160:

KKLPGQHGHK LNYLNLKLF LKIQHLLGTF DSRKRFPASY PKCF

44

## (2) INFORMATION ON SEQ ID NO. 161:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 225 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 161:

AAGGLGLGVG PRGMWRAGSM SAELGVGCAL RAVNERVQQA VARRPRDLPA IQPRLVAVSK 60  
TKPADMVIEA YGHGQRTFGE NYVQELLEKA SNPKILSLCP EIKWHFIGHL QKQNVNKLMA120  
VPNLFMLETV DSVKLADKVN SSWQRKGSPE RLKVMVQINT SGEESKHGLP PSETIAIVEH180  
INAKCPNLEF VGLMTIGSFG HDLSQGPND FQLLLSLPEE TVVKS 225

(2) INFORMATION ON SEQ ID NO. 162:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 99 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 162:

CRGPGARRRS PGDVESWQHV GRAGSRVRIA GGERARAAGC GAAAAGSPSH PAPASGGQQN60  
QTCRHGDRGL WTWAAHFWRE LRSGTARKSI KSQNSVFVS 99

(2) INFORMATION ON SEQ ID NO. 163:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 120 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 163:

LRSCPKLPMV ISPTNSRLGH LAFMCSTMAM VSEGGRPCLL SSPLVLIWTI TFNLSGEPFL 60  
CQELFTLSAN FTESTVSSMK RLGTAINLLT FCFRWPMKC HLISGHKDRI LGFDAFSSSS120

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## (2) INFORMATION ON SEQ ID NO. 164:

- (i) SEQUENCE CHARACTERISTIC:  
    (A) LENGTH: 75 amino acids  
    (B) TYPE: Protein  
    (C) STRAND: individual  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
    (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 164:

TSTGPSSPLV ASAATELA AF AAFSSACMR PEGSASLFWN RLPLLMFGDL QGCEAREGIA60  
MRILQASFSG LSSKG 75

## (2) INFORMATION ON SEQ ID NO. 165:

- (i) SEQUENCE CHARACTERISTIC:  
    (A) LENGTH: 90 amino acids  
    (B) TYPE: Protein  
    (C) STRAND: individual  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
    (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 165:

NTHGDALTCL TPLQVPKHEE GKAIPKQRGR TFRAHTCRAK GSGKSCQFSC SRGYQGAGGT60  
SAGLALYLHT RTAASRGTS SPVGSVAPQQ 90

## (2) INFORMATION ON SEQ ID NO. 166:

- (i) SEQUENCE CHARACTERISTIC:  
    (A) LENGTH: 77 amino acids  
    (B) TYPE: Protein  
    (C) STRAND: individual  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 166:

SHPFEDSPEK EACKIRMAMP SRASHPCRSP NMRRGRRFQN REAEPGRIH AELKAAAKAA60  
SSVAAEATRG LEGPVLV 77

(2) INFORMATION ON SEQ ID NO. 167:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 347 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 167:

TAFPLPVVVA AVLWGAAPTR GLIRATSDHN ASMDFADLPA LFGATLSQEG LQGFLVEAHP 60  
DNACSPIAPP PPAPVNGSVF IALLRRFDCN FDLKVLNAQK AGYGAAVVHN VNSNELLMV120

WNSEIIQQQI WIPSVFIER SSEYLRALFV YEKGARVLLV PDNTFPLGYY LIPFTGIVGL180  
LVLAMGAVMI ARCIQHRKRL QRNRLTKEQL KQIPTHDYQK GDQYDVCAIC LDEYEDGDKL240  
RVLPCAHAYH SRCVDPWLTQ TRKTCPIKQ PVHRGPGDED QEEETQGQEE GDEGEPRDHP300  
ASERTPLLGS SPTLPTSFGS LAPAPLVFPG PSTDPPLSPP SSPVILV 347

(2) INFORMATION ON SEQ ID NO. 168:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 588 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 168:

QVTNMSDKSE LKAELEKKKQ RLAQIREKK RKEEERKKKE TDQKKEAVAP VQESDLEKK 60  
 RREAELLQS MGLTPESPIV PPMSPSSKS VSTPSEAGSQ DSGDGAVGSR RGPIKLGMAK120  
 ITQVDFPPRE IVTYTKETQT PVMAQPKED EEDDDVVAPK PPIEPEEEKT LKKDEENDSK180  
 APPHELTEEE KQIILHSEEF LSFFDHSTRI VERALSEQIN IFFDYSGRDL EDKEGEIQAG240  
 AKLSLNRQFF DERWSKHRVV SCLDWSSQYP ELLVASYNNT EDAPHEPDGV ALVWNMKYKK300  
 TTPEYVFHCQ SAVMSATFAK FHPNLVVG GT YSGQIVLWDN RSNKRTPVQR TPLSAAATH360  
 PVYCVNVVGT QNAHNLISIS TDGKICSWSL DMLSHPDQSM ELVHKQSKAV AVTSMSFPVG420  
 DVNNFVVGSE EGSVYTACRH GSKAGISEMF EGHQGPITGI HCHAAVGA VD FSHLFTSSF480  
 DWTVKLWTTK NNNKPLYSFED NADYVYDVMW SPTHPALEFAC VDGMRDLW NLNNDTEVPT540  
 ASISVEGNPA LNRVRWTHSG RGGGCGGILK DKFCYFAMLG GAVCWSPQ 588

## (2) INFORMATION ON SEQ ID NO. 169:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 41 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 169:

FHVEQLSHSF LSWRKDTIQR GSKDFVKRGI HNLLWSKCPH L

41

## (2) INFORMATION ON SEQ ID NO. 170:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 55 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 170:

CPRDVGTC SI VNYGCHVLQN PYCPFELCPS SKIRSYDSIV QHGIIMKSLS SSIFP

55

(2) INFORMATION ON SEQ ID NO. 171:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 50 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 171:

KAFLVLSFPK WALFLVIHMT LFGCGCLLNF LEWTSFSKPK PARDRKGNNG

50

(2) INFORMATION ON SEQ ID NO. 172:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 60 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 172:

CTFNIESFIY LIVYRTFHN Y THLLHNILTS IFKFECTSSF SFNLVKPVIH TNVYCELSSEG60

(2) INFORMATION ON SEQ ID NO. 173:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 67 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 173:

(2) INFORMATION ON SEQ ID NO. 174:

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 174:

LYHIIRKHSV DQHKWVHKNF FFLGVCKHIC SFISVYKTVN QKDKTEFLVF VIEFLN 56

(2) INFORMATION ON SEQ ID NO. 181:

(i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 289 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 181:

SRRTQGAAS	RFPQPDITIG	DFSASAQRGG	LVAHSDLDER	AIEALKEFNE	DGALAVLQQF	60
KDSDLSHVQN	KSAFLCGVMK	TYRQREKQGT	KVADSSKSGPD	EAKIKALLER	TGYTLDVTTG	120
QRKYGPPPD	SVYSGQQPSV	GTEIFVGKIP	RDLFEDDELVP	LFEEKAGPIWD	LRLMMDPLTG	180
LNRGYAFVTF	CTKEAAQEAV	KLYNNHEIRS	KGHIGVCISV	ANNRLEFVGS	PKSKTKEQIL	240
EEFSKVTGL	TDVILYHQPD	DKKKNRGFCF	LEYEDHKATA	QARRRLIEW		289

## (2) INFORMATION ON SEQ ID NO. 182:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 39 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 182:

KLCTEWLKV G GIWRWMRGSC LGRLCFTWIR VGLREEIGV

39

## (2) INFORMATION ON SEQ ID NO. 183:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 42 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 183:

EAVMTLILIL HTYFLTQPYS NPSEAKPSQT APSHPSPYPP NL

42

## (2) INFORMATION ON SEQ ID NO. 184:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 60 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

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(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 184:

PSFSFYTPIS SRNPTLIQVK QSLPRQLPLI HLHIPPTFNH SVHNFYSLHT SYLLIFLTNK60

(2) INFORMATION ON SEQ ID NO. 188:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 46 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 188:

RSRFHMMLTL RALQLSLPTK IGGACFRVSR LSPTEKKKKK MSLEEA

46

(2) INFORMATION ON SEQ ID NO. 189:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 65 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 189:

ITFSHDAHAQ GASIIPPHKD RWRVFQGLSS LSYRKEKEKN VIRRGVTRQS VPREVFPGVA60  
ERDQF

65

188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

## (2) INFORMATION ON SEQ ID NO. 190:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 66 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 190:

ECREAGPLFL QSRLELISFG HSRKHKPGDG LTCYASSNDI FFFFSVGER RETLKHAPPI60  
 FVGRDN 66

## (2) INFORMATION ON SEQ ID NO. 191:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 48 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 191:

RQTEGETEML RKPSYTTLP R NTSLRECKKY YWRWKS R KTA MGRRPRGD

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## (2) INFORMATION ON SEQ ID NO. 192:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 60 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

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(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 192:

RAETRSQGQL NEDKLGKGLR CLESPAQLY PEILPLGNVK STTGDGRAEK QLWAEQGQVI60

(2) INFORMATION ON SEQ ID NO. 193:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 44 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 193:

SCIAGLSKHL SFPFSLSSLS CPWLRVSALQ LLPLRAFPFA SDLL

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(2) INFORMATION ON SEQ ID NO. 194:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 98 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 194:

EIMNGLVLDN IWPBKLLTSV LGESHFVNHT SEIYMLNGE QRRSCCKRCI KYLCCFCMRL60  
RSFSLSPFLF PIRISREAKL FCGFGNGHFP GKCIWIDD 98

"DISEASE"

## (2) INFORMATION ON SEQ ID NO. 195:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 115 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 195:

AHSSTKAKSK SEFLPILPLC NTLRSSHNCP TPHPVSCCT KPSPLSSFRY IVRQGRRLR 60  
 RRAFEALSTL PASVKMRLHY SPEKRARESH RSRCIFPGND HSQTHRTVWL LWISL 115

## (2) INFORMATION ON SEQ ID NO. 196:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 128 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 196:

SGVKRISCVL ETKAYCHCFK KSLCEMKKNM TNTGSHTYTY IQRNLTCTH TGRYRHTVPP 60  
 KRSPNQSSYR FYHSVILSEV PTTAQHLTYP FPAAQSLLS HLFDTSSTGRA EGHYAAEHSR120  
 LSAHCQPA 128

## (2) INFORMATION ON SEQ ID NO. 200:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 72 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 200:

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 201:

77

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 202:

EANTFLSEDG SNVLQCPSVF SNFLSQMQTF PHSTSLPIPG PVSVSLSQAT FSKEGVPLPA60

## (2) INFORMATION ON SEQ ID NO. 203:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 84 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 203:

PTTTLVIPLF FLSSRRKRQK DSFQTALCSL HCSFPKQAAS TGKAHVVTYPY FSEVLLFHGV60  
 TLLSESKFRK QVLPLADKNH TSFL 84

## (2) INFORMATION ON SEQ ID NO. 204:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 128 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 204:

CDRVPLFLSY WCAVADSWLT ASSVSHVKG I LSPQPTCAP PGPANCFNFF FFFFFFFLVET 60  
 GSPSVAQDGL ELLGSSNPPT LASQSAEITG MSHYAQPEQD DLNLINSTPK QQLSLSQGCQ120  
 GGLCEGKD 128

## (2) INFORMATION ON SEQ ID NO. 205:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 96 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

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## (2) INFORMATION ON SEQ ID NO. 208:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 68 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 208:

CCSCQSSQVR YSDRWMTFTI NQTSTPPPDS WQDSAGRPGT GHFHLVALLF PLENLWKTSR60  
 GPQNPGNL 68

## (2) INFORMATION ON SEQ ID NO. 209:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 164 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 209:

WGGRTLASAV SIPLRKCHSH RPTVLARKQP QSGVPPPYTA IASPDASGIP VINCRVCQSL 60  
 INLDGKLHQH VVKCTVCNEA TPIKNPPTGK KYVRCPCNCL LICKDTSRRI GCPRPNCRRRI120  
 INLGPVMLIS EGTSSACIA QSQPEGYKGR VLGHGWGTHS LWDG 164

## (2) INFORMATION ON SEQ ID NO. 210:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 218 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 210:

SSAVPDGAVG RPVAVAVGGP PHSCRCRPCC LMAAIGVHLG CTSACVAVYK DGRAGVVAND 60  
AGDRVTPAVV AYSENEEIVG LAAKQSRIRN ISNTVMKVQK ILGRSSSDPQ AQKYIAESKC120  
LVIEKNGKLR YEIDTGEETK FVNPEDVARL IFSKMKETAH SVLGSDANDV VITVPFDFGE180  
KQKNALGEAA RAAGFNVLR L IHEPSAALLA YGVGQDSP 218

(2) INFORMATION ON SEQ ID NO. 211:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 186 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 211:

RKWTLTMSQ KRMLKRPDNK LKYVTKWQRT AKQITHPFSR NSTMSSMNIT ILTSPTSSRK 60  
YKRAEERRIV RMGESMKTYA EVDRQVIPII GKCLDGIVKA AESIDQKNDS QLVIEAYKSG120  
FEPPGDIEFE DYTQPMKRTV SDNSLSNSRG EGKPD LKFGG KSKGKLWPF I KKNKLMSLLT180  
GGPFSF 186

(2) INFORMATION ON SEQ ID NO. 212:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 60 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 212:

ISGRRVSLNF VSEFSITEFC PCWCLGYRPD GPGSFPPSCSG LEVSPLHFLK ACVQCSPKSI60

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 68 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 213:

DLCSTLSATK GSITCFLNKA LVSPPASSGL HYSETNSTSF AGGITVPISR LGPALQTSFG60  
LLVLLTLL 68

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 54 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 214:

TISFFKSKRG LKQEGTGTSS QMDLGEHCTQ ALRKCKGLTS RPEQDGKLPG PSQL 54



## (2) INFORMATION ON SEQ ID NO. 215:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 276 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 215:

```

LPTAFLLSSV FWIEMTWEL FFPOLAGAPF YFSFIFSIVA FLYFFYKTWA TDPGFTKASE 60
EEKKVNIITL AETGSLDFRT FCTSCLIRKP LRSLHCHVCN CCVARYDQHC LWTGRCIGFG120
NHYYIIFFLF FLSMVCGWII YGSFIYLSSH CATTFKEDGL WTYLNQIVAC SPWVLYILML180
ATFHFSWSTF LLLNQLFQIA FLGLTSHERI SLQKQSKHMK QTLSLRKTPY NLGFMONLAD240
FFQCGCFGLV KPCVVDWTSQ YTMVEHPARE KVLRSV                               276

```

## (2) INFORMATION ON SEQ ID NO. 216:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 49 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 216:

```

SPSRSPVVFA GEFLEKHPFV EESLMSFFHP DLHLMNPKAI STQFLYSVF

```

49

## (2) INFORMATION ON SEQ ID NO. 217:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 37 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 217:

KEINNYIRKE KNFKYLQFST PNHPQDRWVQ KNAPWFY

37

(2) INFORMATION ON SEQ ID NO. 218:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 52 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 218:

KFSSKDDRTS RRRSIIISER KKILSIYNPL LLITPKIGGS RKMHLGFTEE RS

52

(2) INFORMATION ON SEQ ID NO. 219:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 150 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 219:

DKRNGIISKK LSPEKTTLKS ILKRKGTS DI SDESDDIEIS SKSRVRKRAS SLRFKRIKET 60  
KKELHNSPKT MNKTNQVYAA NEDHNSQFID DYSSSDESLS VSHFSFSKQS HRPRTIRDRT120  
SFSSKLPSHN KKNSTFIPRK PMKCSNEESC 150

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## (2) INFORMATION ON SEQ ID NO. 220:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 83 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 220:

NKWNKSKLGK EISKATQSLD PAQLADPCHS LAVAASLCSL KGEFGQCFPS PWAWSLHSGK60  
 QTS GPFPKSQ ECLAAWVLI AMF 83

## (2) INFORMATION ON SEQ ID NO. 221:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 83 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 221:

NSKLVD CRME TWLLRHVVSF SLCVSCWGVV MIVSALTHCT RWQQDTALHK MAAPLQLPPQ60  
 PPSLHPRFG LWFLSSVTYC LRS 83

## (2) INFORMATION ON SEQ ID NO. 222:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 90 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 222:

CLHNREPDIF RILSSSYGI LRPSYLQTK WPWSLQNIAM STHQAARHSW DLGKGPLVCF60  
PLCSDQAQGL GKHWPSPFS EHREAATARE 90

(2) INFORMATION ON SEQ ID NO. 223:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 114 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 223:

QSLRHCWLNI SLQRDGAFKE PGAGPVSSKA LDVFLVRTRR GCQMLKPSG LVWPRAAGQG 60  
RAEKWSSSQL ALPSPTQPRP RWSLDSILTS ASPKVQMSKC LVVQSQEMGS YLKS 114

(2) INFORMATION ON SEQ ID NO. 224:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 145 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 224:

GCVGGGAEAE MAEKFDHLEE HLEKEVENIR QLGIIVSDFQ PSSQAGLNQK LNFIVTGLQD 60  
IDKCRQQLHD ITVPLEVFY IDQGRNPOLY TKECLERALA KNEQVKGKID TMKKFKSLII120  
QELSKVPED MAKYRSIRGE DHPFS 145

223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

## (2) INFORMATION ON SEQ ID NO. 225:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 95 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 225:

GQTMRTGLR GVSRAQSHLS RKVASALAVP ASRRIAVPGD LHTGRVSWLR RRVILPPDAS60  
 ILSHVFRKYF RKFLNQAFK FLHGVDLAFN LLIFS 95

## (2) INFORMATION ON SEQ ID NO. 226:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 87 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 226:

ALRPPLYALG QQVGAVTGPA DCSATAPLDF WIFWKQSQNS GLLGGWQGRGM VRGPPFISLF60  
 SIRWQSTGHP WWVSGPRPMP TLPFESR 87

## (2) INFORMATION ON SEQ ID NO. 227:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 79 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

225 226 227

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 227:

APALATQPPL SLPRGTGPAY LNSLTMLMQT WLLDSKLLSS NVLLPHFHFH HICLLLYWFL60  
LLNLYFHSWV LCLPPFFSA 79

(2) INFORMATION ON SEQ ID NO. 228:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 87 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 228:

RSMSVEASFV CLGTTGRCCH WSCRLFSNSP FGFLDILETK SEQWPTGGLA EGYGKRTSFH60  
LPVQHMAVH RSSLVGVRPK THAHLTL 87

(2) INFORMATION ON SEQ ID NO. 229:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 150 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 229:

ATLSRFFGRI FNLRLTQVFP FLFSSPNDKK SFCSSIEGEWN GVMYAKYATG ENTVEVDTKK 60  
LPIIKKKVRK LEDQNEYESR SLWKDVTFNL KIRDIDAATE AKHRLEERQR AEARERKEKE120  
IQWETRLFHE DGECWVYDEP LLKRLGAAKH 150

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## (2) INFORMATION ON SEQ ID NO. 233:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 206 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 233:

DSLRRGLGIC LWEFIHLSLL FTSPKPGFPL LKPAVISQLE GGSELGGSSP LAAGTGLQGS 60  
 QTDIQTNDL TKEMYEGKEN VSFELQRDFS QETDFSEASL LEKQQEVHSA GNIKKEKSNT120  
 IDGTVKDETS PVEECFFSQS SNSYQCHTIT GEQPSGCTGL GKSISFDTKL VKHEIINSEE180  
 RPFKCEELVE PFRCDSQLIQ PSREQH 206

## (2) INFORMATION ON SEQ ID NO. 237:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 57 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 237:

RIRRSALIFS KGVQRWRRVF GRRVSPGSGN TESEASDYRK KQGTSKVFGR RVLKKIQ 57

## (2) INFORMATION ON SEQ ID NO. 238:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 44 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

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(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 238:

GTLFFTVVTG FALCVPAAGT YPPSENPPPS LYTLGKDQCR TDP

44

(2) INFORMATION ON SEQ ID NO. 239:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 74 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 239:

NLYPTLEFNP SHEVVVELTGF FSTPFFERTPL RYLVFYGSHW LRSLCSRCD LPAFRKPAAI60  
SVHPWKRSVQ NAGS

74

(2) INFORMATION ON SEQ ID NO. 243:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 183 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 243:

AAVAFGAKGT SPAEARSSRG IEEAGPRAHG RAGREPERRR SRQQRGGLO ARRSTLLKTC 60  
ARARATAPGA MKMVAPWTRF YNSCCLCCH VRTGTILLGV WYLIINAVVL LILLSALADP120  
DQYNFSSSEL GGDFFEMDDA NMCIAIAISL LMILICAMAT YGAYKQRAAG SSHSSVTRSL180  
TLP

183

238 239 243



## (2) INFORMATION ON SEQ ID NO. 244:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 157 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 244:

CQHVVHCHCDF SSHDPMCYG YLRVQATRS WIIPFFCYQI FDFALNMLVA ITVLIYPNSI 60  
 QEYIRQLPPN FPYRDDVMSV NPTCLVLIIL LFISIILTEK GYLISCVWNC YRYINGRNSS120  
 DVLVYVTSND TTVLLPPYDD ATVNGAAKEP PPPYVSA 157

## (2) INFORMATION ON SEQ ID NO. 251:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 81 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 251:

ATKTVPRQRW SPPHCPRPNP SLNLLRCGWG NRGKTEAPDA FSLLCSSAID CPDVQRETH60  
 RFAHENWGAD GQADRLCLFS E 81

## (2) INFORMATION ON SEQ ID NO. 252:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 97 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

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(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 252:

GVDGETEAKL RHLMHSACCA AVPLTALMFR EKRTQGLPMR IGEQMAKQIG YVCFLSDEVR60  
KPCGSGGHLW FILFPYPWLL EMVTFRTVQL HLSEHYC 97

(2) INFORMATION ON SEQ ID NO. 253:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 114 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 253:

LEILGIFSRV SKLSSSPTDT HPSSQIGVAI LGGRVVYGTP GCLHISQNYR RTIVPKSRVF 60  
TGRQNLFSMP VPQLLSQIPI LGSHQLPIPH QTATVPSLSP YCSFKSCSQE RNCH 114

(2) INFORMATION ON SEQ ID NO. 254:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 53 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 254:

IPSPQGPFGR SYSDPRKCPF PIVVLCLWGL VYPRGNCGEI IGLRVKRALV LEL

## (2) INFORMATION ON SEQ ID NO. 255:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 35 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 255:

QVDTLISTRK GLKLQNQCSL DSQTNDFSTV TPGID

35

## (2) INFORMATION ON SEQ ID NO. 256:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 41 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 256:

TKPQRHRTTM GKGHFLGSEY DLQNGPCGLG IYPYAVPWSN A

41

## (2) INFORMATION ON SEQ ID NO. 260:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 205 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

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(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 260:

GSVKVPASPR PGGTSLGPGV AAKELSFSPR NGRRGQLPRP PGSLTLLFF SSPASRGPAS 60  
LSPGGIRLLL PPPPHLLPGQ PACPAVMCD KEFMWALKNG DLDEVKDYVA KGEDVNRTLE120  
GGRKPLHYAA DCGQLEILEF LLLKGADINA PDKHHITPLL SAVYEGHVSC VKLLLSKGAD180  
KTVKGPDLGT AFEATDNQAI KALLQ 205

(2) INFORMATION ON SEQ ID NO. 264:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 180 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 264:

RNMSSFSRAP QQWATFARIW YLLDGKMOPP GKLAAMASIR LQGLHKPVYH ALSDCGDHVV 60  
IMNTRHIAFS GNKWEQKVYS SHTGYPPGGFR QVTAAQLHLR DPVAIVKLAI YGMLPKNLHR120  
RTMMERLHLF PDEYIPEDIL KNLVEELPQP RKIPKRLDEY TQEEIDAFPR LWTPPEDYRL180

(2) INFORMATION ON SEQ ID NO. 265:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 78 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 265:

VIGYPSRINS EPSVVIYNRP GNNVKLNCMA MGISKADITW ELTDKSHLKA GVQARLYGNR60  
FLQPQGSMTS SACHKEGW 78

"DDBE" 0455

## (2) INFORMATION ON SEQ ID NO. 266:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 40 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 266:

ATPLCGMLNG SLIPGVVEIC FHTDEPEPLP SDATYPLTPT

40

## (2) INFORMATION ON SEQ ID NO. 267:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 136 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 267:

VGIWQEDHLP QSLGFLNKKE IVFLSWLLRL LKLALPLKYD ISFAVLNLKL VASSVAHFQF 60  
 LYQASLLSFP LRMGQVCSGG HSVRFSGFG RGFKGKYSGG RMGSGVKVGD KGGRAKGGVE120  
 GWGPYLDGRM PGGQ GK 136

## (2) INFORMATION ON SEQ ID NO. 268:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 92 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 268:

(2) INFORMATION ON SEQ ID NO. 269:

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 269:

NLVYTMWLQI YVNVHFEHIY VLWKEMLVTK IRFTLKEEEF YSKHSNILEK CFKIQSIVFK 60  
 VAVKASTYVK TQKEGSSDKN TAPLLCCFSC SLYTLKSHLL SGA 103

(2) INFORMATION ON SEQ ID NO. 270:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 82 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 270:

FIYQSKVRD IFAVTLAILS LQSPTSRVQC TSNNSLKTRH LTISVYLVCK VNKKSSIIKE60  
LCFYORSLPS EFLHKLMPSL QL 82

## (2) INFORMATION ON SEQ ID NO. 274:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 95 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 274:

QQHHLPQSLG FLNKKEVVFL TWLLRLLKLA LPLKYDISFA VLNLKLVASS VPHFQFLYQA60  
SLLSFPIRMD MCCSACHVCN ASCREFGHSI KEKIQ 95

## (2) INFORMATION ON SEQ ID NO. 275:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 56 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 275:

LLHQYHTSSF YTKPVSSVFP LEWTCVQRV MSVMLHAESL VIVLKRKYSE VTMSPE 56

## (2) INFORMATION ON SEQ ID NO. 276:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 69 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 276:

HAEQHMSILM GKLRLAWYR NWKCGTDEAT NFKERTAKLM SYFKGRANFN NLNNQVKNTT60  
SFLLRNPNPND 69

(2) INFORMATION ON SEQ ID NO. 277:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 95 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 277:

YILEISPLKP SLAPTSCGLM PQGFPPHFCN PRYPSLSTPS QTPTPGIARE DEGLANCVGY60  
VSVVLIRDVH DCQSAFLTSV TTLRCNSSQ KKTFS 95

(2) INFORMATION ON SEQ ID NO. 278:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 133 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 278:

PTQFARPKSS RAIPGVGVWD GVDNEGYLGL QKWGGNPWGI SPQEVGASDG FRGDISNIYQ 60  
PWALSPCCSQ HGPHTSSLRL TWELVRNAGS PRSIELEAVL TRSPVIFMAQ SSFLRDRCL120  
LSAGMRHPWG RCG 133

TABLE 2 "PROTEIN DATA"



## (2) INFORMATION ON SEQ ID NO. 279:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 102 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 279:

LKQHSNQHNN LLGQSLHGQS LGWESGMGWI MKDTWGCRSG VGIPGASVHR RWGPAMASGV 60  
 IFPIYISPGH SRPAASHMVL TPAASALPGS LLEMQDLPDL LS 102

## (2) INFORMATION ON SEQ ID NO. 283:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 86 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 283:

VYSANEGQNF QFIDGYSAAD ESLCVSHFNF CKQRHRPRTV RGRTSFSSKL PRHNKENSTF60  
 ISRKPMEC SN EEVVNQSQSD GSMGKF 86

## (2) INFORMATION ON SEQ ID NO. 284:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 69 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

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(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 284:

GAEVLFLQNC LGIIRKIALL FQGNRWNVQM RKLLIKGSRM DQWVNFRWRQ GGAYIHSNPD60  
VIWSGQGWK 69

(2) INFORMATION ON SEQ ID NO. 285:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 59 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 285:

LTSSFEHSI GFLEIKVLFS LLCLGNFEEK LVLPLTVLGL CLCLQKLKWL THKLSSAAE 59

(2) INFORMATION ON SEQ ID NO. 286:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 65 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 286:

GKEPQPESNS IMVKFPTSS CEWVIRKNEK PKDKNQRQMG SVTGSLSSIL NPIEYCGLTK60  
CQGGD 65

"DISEASE"

## (2) INFORMATION ON SEQ ID NO. 287:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 48 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 287:

FLSFGSSFFL ITHSQDDSVG NLTMIELLSG WGSFPHRKDI LKTKKYLN

48

## (2) INFORMATION ON SEQ ID NO. 288:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 32 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 288:

ARNIQSDLEW MIKIQSQTPS VFDFCLLDPH FS

32

## (2) INFORMATION ON SEQ ID NO. 292:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 76 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

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- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 292:

CAKLETGFDF LSYLFAFCAS PSNLVHLSSH SCYFQVKQDI LGVKSLWVFC FYVYKNGFCV60  
PEPCYQLIW KLTIIM 76

(2) INFORMATION ON SEQ ID NO. 293:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 63 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 293:

VELSLLFPQL SQLLVNFKEA GHDDSHLLSQ NFGRRRWADS LSPGVQDEPG QYGPTSSLTK60  
HPH 63

(2) INFORMATION ON SEQ ID NO. 294:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 73 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 294:

PPKCLVSLEN NMNETKDEPD YLVTHRRRTS SSGNQILFQA WHIKGKKGSE RRVRYHLKP60  
QKIWQKTASK SIR 73

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(i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 132 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 298:

(2) INFORMATION ON SEQ ID NO. 299:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 70 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 299:

(2) INFORMATION ON SEQ ID NO. 300:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 143 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 300:

GVKAREYRED VFTFRACVSG FGHQQRVGV RKEGMGQHPW DVQVPSWSPF SSLREWTSQS 60  
TSSGLSDLLL CLYQPWQGSR IHLVGSGPSQ YHWGSNKFLE PQSLGPGSQL IADGVPFKLV120  
PARAEFGTSL KGNSVTYELG PWP 143

(2) INFORMATION ON SEQ ID NO. 304:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 408 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 304:

FANWEFMGTE QLQPQLPSPK VWSCRGCRQG PTKFNQVSRM QTPAPVSRV GLAVSLTPPP 60  
SGQSGPSVMG KAAACPATPA SAPSQGLSFG GPVSCWPGSP LLHLIGGRQL LDLCPGCGRS120  
LPFSSSSSSS VSNDAPDGP RGLGCFGGVV LGGRGFKYLL YFLEVAATQQ ILLGRASAF180  
LKRDVGDPLV VAPAFFAVAG HLHQAVALPG VRVRVRDQET MQVSGLGGL GLGRLSQELR240  
QALHARHPHD VDVVVTAEGL DEREVDLQGD VILLLLVNGQ EAEDHAVVWH IHQLGRLVHP300  
HCEAILALSG HQKLLHRGGH RLHLLRRVVA RHELFQRHVA IIIHSGCGST AVPREKLQNP360  
SQRAQNLPTL LERSKTFGK QRNPSRKGGK IYCKVLGEDN PGSCGNQR 408

(2) INFORMATION ON SEQ ID NO. 305:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 169 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 305:

GWGVWQAGLD PVLGPPSSAV PSLLLGVVSM VWPHLQLCLS AVPLASSSLN SAAWSPVSSR 60  
ARQGWGGWCW QQLLSWCDLS GLHLRGRNGP GYRQIHPGW SPRPPGLGAA GGRWLLVGRW120  
PSCLACLPLCL SSSPNALSVS AFLAPGLSTP SAYKAVSPPQ TTVWLQPIR 169

(2) INFORMATION ON SEQ ID NO. 306:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 120 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 306:

ILQLGHQFPL VPARAGAVGV GSSFSLGATF PASTSEVGMG QAIEVRFIQA GVLVLRWGL 60  
LGGAGCWWEV GHRAWLVFPA SLLLLTLCLS LLSWPRASPL PQLIRLCLLL RPQSGSSPSG120

(2) INFORMATION ON SEQ ID NO. 307:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 472 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

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## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 307:

SESLTHPGEE PGGPPPGGAP TMTATPLVAGP AALRFAAAAS WQVVRGRCVE HFPRVLEFLR 60  
 SLRAVAPGLV RYRHHHERLCM GLKAKVVVEL ILQGRPWAQV LKALNHHFPE SGPIVRDPKA120  
 TKQDLRKILE AQETFYQQVK QLSEAPVDLA SKLQELEQEQY GEPFLAAMEK LLFEYLCQLE180  
 KALPTPQAQQ LQDVLSWMQP GVSITSSLAW RQYGVDMGWL LPECSVTDSV NLAEPMEQNP240  
 PQQQRLALHN PLPKAKPGTH LPQGPSSRTH PEPLAGRHFN LAPLGRRRVQ SQWASTRGGH300  
 KERPTVMLFP FRNLGSPTQV ISKPESKEEH AIYTADLAMG TRAASTGKSK SPCQTLGGRA360  
 LKENPVDLPA TEQKENCLDC YMDPLRLSL LPPRARKPVCP PSLCSSVITI GDLVLDSDDEE420  
 ENGQGEKES LENYQKTKFD TLIPTLCEYL PPSGHGAIPV SSCDCRDSSR PL 472

## (2) INFORMATION ON SEQ ID NO. 308:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 138 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: ORF

## (iii) HYPOTHETICAL: yes

## (vi) ORIGIN

- (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 308:

PGFALRGAIG PREGRGGGRG YRRSSGRQPL VSWQRQARCG SGGAMSFCFSF FGGEVFQNHF 60  
 EPGVYVCAKC GYELFSSRSK YAHSSPWPAF TETIHADSVK KRPEHNRSEA LKVSCGKCGN120  
 GLGHEFLNDG PKPGQSRF 138

## (2) INFORMATION ON SEQ ID NO. 309:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 121 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: ORF

## (iii) HYPOTHETICAL: yes

## (vi) ORIGIN

- (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 309:

SYGATAAFLS RSEASYFRTD CETGFRFLPS WTRGQGCAPS ACLPSRSQTI PTLAGLEGFD 60  
 QSGSCSDQGG GGWQGRPPFP FCLLSSSLGDV GLSFGEDESL SWNWASQGRV QRQGQEKKVR120  
 V 121



## (2) INFORMATION ON SEQ ID NO. 310:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 249 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 310:

SEQGAKSADS VAAQPRPVPA EGMNHQQMSL FSKKRKGLVQ SRGLGSVLMF QPLRPAFLSR 64  
 RPFQQLQGGM ANVWPQCGR LGVWVAARLV TLGGRSFFAF RDKLQRAAEY SESGLPRLGA120  
 VVQELVAQPI ATLATGHLQG FRSIVLRTLQ HAVGVNGLGE RRPWRRVCIL RAAGEQLIAT180  
 LGTHVNARFK VILENLAPEE AAERHGATGT AARLPLPTDQ RLPTRRPPVP ASTSPPLERT240  
 NRSPEGESR 249

## (2) INFORMATION ON SEQ ID NO. 311:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 204 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 311:

LGSSWIFVNL TVRFCILGKE SFYDTFHTVA DMMYFCQMLA VVETINAAIG VTTSPVLPSL 60  
 IQLLGRNFIL FIIFGTMEEM QNKAVVFFVF YLWSAIEIFR YSFYMLTCID MDWKVLTWLR120  
 YTLWIPLYPL GCLAEAVSVI QSIPIFNETG RFSFTLPYPV KIKVRFSFFL QIYLIMIFLG180  
 LYINFRHLYK QRRRRYGQKK KKIH 204

## (2) INFORMATION ON SEQ ID NO. 312:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 155 amino acids
  - (B) TYPE: Protein

(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 312:

RISGCSPRSS CCFQCPTADR FKKPTEQQQN EVFLRSIQKC TVPPLTRTST QVNGLSQCRR 60  
WKAAIFYVCA QPYSLEVCLA YSNISSLSKA VHCYCQFDLH TVFPLDPCYH LDLVCVCVYV120  
CLCVCGLVWF ETGSCTVTPG CSAVAQSRLT AALTS 155

(2) INFORMATION ON SEQ ID NO. 313:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 70 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 313:

AVMDQVMQFV EPSRQFVKDS IRLVKRCTKP DRKEFQKIAM ATAIGFAIMG FIGFEVKLIH60  
IPINNIIVGG 70

(2) INFORMATION ON SEQ ID NO. 314:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 112 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

FRNRKHLERK KKNPQNIQAN LYSVSFSHPH TCSPISKMKN SLPKCIQPPT MMLLIGIWIN 60  
ETKKPMNP II ANPIAVAMAI FWNSFLSGLV HLLTSRMESF TNCRLGSTNC IT 112

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 110 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 315:

DEKLSSKMYST ATNNDVINRN MDQFHKEANE SHYSKSYCCC HGNLLEFFSI RFSASFNQPN 60  
GVLYKLPTWL NKLHYLIHDC LPNRHLKCQG HVALELADGG PPEPESGFLP 110

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 113 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 316:

GSSEGSYSSQ TETCPLTPSL VTGSMFAQNF LRGLSLQKSN LLPECCCLASE NLTLSFSPVN 60  
GHRCAVQGE TSESRAQWHG VALVVRKVIG QLYCKRNKYV VQFCKCQVCS VVL 113

(2) INFORMATION ON SEQ ID NO. 317:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 100 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 317:

GKGRQLWSLN LLAPCAGYKT RSWSKIALTP NPNAVQDLGA TQPVVIWCWF PFFVCLLVSK 60  
 IALLGTAWKV QAFLLARSL ASSPCLHSPV KEDFCSTLWS 100

(2) INFORMATION ON SEQ ID NO. 318:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 101 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 318:

SQIISNLVDN YSIQELMFSE TVINRIFTSG LAGRLGGRKG RVEGWVAHQN GDEPGKTTML 60  
LFLYPLKPIS RVLNDAFFVC FLIGSQISFS IKNWGYKPKE T 101

(2) INFORMATION ON SEQ ID NO. 319:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 368 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 319:

368

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 121 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 320:

121

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 114 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 321:

FFFFFFFF HSNVYFFFF FFFFHGKNVI YLHCFHSSTV VLGLNISITL LFPIYILLEY 60  
YKYNIQFKK TYGETQLMEF SPLYRLSII RLQWKFIWTF SVHILKGRDY TDKA 114

(2) INFORMATION ON SEQ ID NO. 322:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 597 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 322:

EKCGQYIQKG YSKLKIYNCE LENVAEFEGL TDFSDFKLY RGKSDENEDP SVVGEFKGSF 60  
RIYPLPDDPS VPAPPRQFRE LPDSVPQECT VRIYIVRGLE LQPQDNNGLC DPYIKITLGK120  
KVIEDRDHYI PNTLNPVEGR MYELSCYLPQ EKDLKISVYD YDTFTRDEKV GETIIDLENR180  
FLSRFGSHCG IPEEYCVSGV NTWRDQLRPT QLLQNVAREK GFPQPILSED GSRIYGGGRD240  
YSLDEFEANK ILHQHLGAPE ERLALHILRT QGLVPEHVET RTLHSTFQPN ISQGKLQMWV300  
DVFPKSLGPP GPPFNITPRK AKKYLRVII WNTKDVILDE KSITGEEMSD IYVKGWIPGN360  
EENKQKTDVH YRSLDGEGNF NWRVFPPFDY LPAEQLCIVA KKEHFWSIDQ TEFRIPPRLI420  
IQIWDNDKFS LDDYLGFELE DLRHTIIPAK SPEKCRLOMI PDLKAMNPLK AKTASLFEQK480  
SMKGWWP CYA EKDGARVMAG KVENTLEILN EKEADERPAG KGRDEPNMNP KLDLPNRPET540  
SFLWFTNPCK TMKFIVWRRF KWVIIGLLFL LILLFVAVL LYSLPNYLSM KIVKPNV 597

(2) INFORMATION ON SEQ ID NO. 323:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 76 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 323:

IRRDKAYLTF KWRDDENPLI QSFRTKRQSS DKSMTWMKCP TGALDIFNFC DYVKEVDFTD60

NGAEANISKR NPNFFP

76

## (2) INFORMATION ON SEQ ID NO. 324:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 90 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: ORF

## (iii) HYPOTHETICAL: yes

## (vi) ORIGIN

- (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 324:

FFLYSFSSDN HDFSSEKTIY LAFVSGGELA ISILKPAIIV NLRTGLSWGS EGKELFEQMC60  
VGGTGFHPTA KLVLEISFY NTKISLCQRF 90

## (2) INFORMATION ON SEQ ID NO. 325:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 60 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: ORF

## (iii) HYPOTHETICAL: yes

## (vi) ORIGIN

- (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 325:

TRSLLYFHM F LILWEEVGIP FTNVGFC SII CKVHLFHIIA EIKDVQGPCR AFHPCHTLIR60

## (2) INFORMATION ON SEQ ID NO. 326:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 42 amino acids

RECEIVED 1987-07-23

(B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 326:

IRNEKKGCVL SVGEMELVLV VLEQDRHLVL MLWSFVIVEH RG

42

(2) INFORMATION ON SEQ ID NO. 327:

(i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 50 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 327:

ATCSDNRSKI FQLENLECYV LLEPAICMYR INNFYSFGQV ILRQSQWIK

50

(2) INFORMATION ON SEQ ID NO. 328:

(i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 48 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
 (A) ORGANISM: HUMAN

326 327 328



(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 328:

PKGVVVNPGA LLSQRTTASE LSACPAPTLP GPVPSHLLIR HSLSSHSL

48

(2) INFORMATION ON SEQ ID NO. 329:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 100 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 329:

ISEVAVNFSV LLLASVCLPI DTHYTNVPSK CSLHICFHCV PTGAMKCVRS PSSGGMSAAL 60  
TTAIRIVLCG IFIYINFICT VISLFICQVT ICKSYTHKLL 100

(2) INFORMATION ON SEQ ID NO. 330:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 122 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 330:

EAQKWDCIWT KNYKKVQSLV SRMQALALGD GSSLENAAAD SLFQRRSFER RVCYISFFTV 60  
TLWRLKDLVV SCFLKITGIW RPKPFWTDI SSKYFFIKVF EGDDFLDLWL DILGFPDYIV120  
LS 122

"BEE" BEE BEE

## (2) INFORMATION ON SEQ ID NO. 331:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 124 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 331:

ENWASRYFQS SFTEQKVWVG HWLEGDSPTL TVTIWAATGG IVQLASRCIP HLKVCWIKAI 60  
 YTLAKSKAKE IALDPESQQD HLIFPNQHLG QQLPSTFLFH SWFFFFFFLQ DLAVTQDGVQ120  
 WHDH 124

## (2) INFORMATION ON SEQ ID NO. 332:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 82 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 332:

LNVDLLITRR LCEKIYVYIY MICRSHEFFYQ ALFSLQSHSL TVCNSWFMLM IDKYPVFVTF60  
 SNYHCNDNLS HUYTCNFLAS FP 82

## (2) INFORMATION ON SEQ ID NO. 333:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 82 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 333:

RLVKYKNSLN REKASQVFPL KVKYGTFFHN KVNDKFLTF FRRKKKTSYE PSLVNHLVYK60  
IFPLFKKCFC KILRSHEIMP WS 82

(2) INFORMATION ON SEQ ID NO. 334:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 75 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 334:

KLEYIMSTAN CSFCLILTDY AFPQRSSRSH IYRHIYGSL KEKTLSSIM IYHCAINQKN60  
QVRNTIKTTL KGKNF 75

(2) INFORMATION ON SEQ ID NO. 335:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 72 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 335:

NEYCSWSTCI KQKTCQLLGA NTQNLVPVEF FELTTIVYTF LKIKFVTKSP MSFTCIYDHQ60  
MVIRATYVNA CL 72

"BIBLIS" 1993

## (2) INFORMATION ON SEQ ID NO. 336:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 93 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 336:

THNTSTITAY RKLQSTLQAS KVHSAQSPW RGRDLKVLMS SYFTCFLLST QCKMNFLHSL60  
YFRLKIDSFL VLTLTLEGT VPGKRSRFTV PNH 93

## (2) INFORMATION ON SEQ ID NO. 337:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 99 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 337:

LGPRGEIEVY LAKSLAEKLY LCQYPVRPAS MTYDDIPHL S AKIKPKQQKV ELEMAIDTLN60  
PNYCRSKGEQ IALNVDGACA DETSTYSSKL MDKQTFCSS 99

## (2) INFORMATION ON SEQ ID NO. 338:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 56 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

13557344-9557

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 338:

GKSRRSACPS ASRNTCWSRR RRP RP RS AQ S APLCCGNSWG S GCRWPSQAL PSAAWA 56

(2) INFORMATION ON SEQ ID NO. 339:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 59 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 339:

GRAEGLLVHQ LRGIRAGLVG AGPVHVQRNL LPFAAAIVGV QGVDGHLKLY LLLLGLDLG 59

(2) INFORMATION ON SEQ ID NO. 340:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 157 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 340:

QPSSLLHHCP YPYPPRHLLA TPLLKPQLLA GSPA HAS LIS FLASPQRASR QHGGPSQRAG 60  
TLSCPLVELG GSSGGRGLCH GSADPTNRAA EPQERGEPA A GDRRPLPEWG RVSLAESPGA120  
EFRCPGSLGE WGEIPEKESS AHPKTEEAAL CPAPGSH 157

338 339 340

## (2) INFORMATION ON SEQ ID NO. 341:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 260 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 341:

NHSCWQGPQL MPASSPFLLA PKGPPGNMGG PVREPALSA LWLSWGAALG AVACAMALLT 60  
 QQTELQSLRR EVSRLQGTGG PSQNGEGYPW QSLPEQSSDA LEAWESGERS RKRRAVLTQK120  
 QKKQHSVLHL VPINATSKDD SDVTEVMWQP ALRRGRGLQA QGYGVRIQDA GVYLLYSQVL180  
 FQDVTFTMQ VVSREGQGRQ ETLFRCIRSM PSHPDRAVNS CYSAGVFHLH QGDILSVIIP240  
 RARAKLNLSP HGTFLGFVKL 260

## (2) INFORMATION ON SEQ ID NO. 342:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 201 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 342:

TPASWIRTPY PWACRPLPRL RAGCHITSVT SESSLEVALM GTRCRTECCF FCFWVSTALL 60  
 FRDLSPLSQA SRASELCSGR LCQGYPSPEW EGPPVPCSLR TSLRLCSSLV CWVSRAMAQA120  
 TAPRAAPQLN QRATESAGSL TGPPMLPGGP LGASKKGDEA GMSWGPCQQL WFQEWGSKEV180  
 AGRVRVRAVV QKGRLLRKE K 201

## (2) INFORMATION ON SEQ ID NO. 343:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 165 amino acids
  - (B) TYPE: Protein

(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 343:

GRRSRMEIPV PVQPSWLRRA SAPLPGLSAP GRLFDQRFGE GLLEAELAAL CPTTLAPYYL 60  
RAPSVALPVA QVPTDPGHFS VLLDVKHFS EEIAVKVVG HVEVHARHEE RPDEHGFVAR120  
EFHRRYRLPP GVDPAAVTSA LSPEGVLSIQ AAPASQAAPP PAAAK 165

(2) INFORMATION ON SEQ ID NO. 344:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 116 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 344:

TALAPQASQ AQSPHPPNVL DCTDLPLQTI QAWFPRPDS PATRQSTTAP SSPFSVAVKPO 60  
PATPDSTLFL RLPQLLDTRP TRTPNTKLYR LSHPNLPRLC TDVLGPLPNS NQTPSP 116

(2) INFORMATION ON SEQ ID NO. 345:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 111 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

19950901 09:00:00

DYRAESGEVG VGESVQFGVG CSSWPGVQEL GQSKKGSRVW CGWLGFHGRK WAGGGSCRLS 60  
 GCRGRIGSWE PGLDGLEWEV CAVQDVWVGVL GLCLTGLGLG QGCLHHNLVS K 111

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 53 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

RTEEEKKKKE KNQOPQLPTP KCWSFYVKGR IPGYGHGVYK YVGRFSANSF PTV 53

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 51 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

NELKWTNRAE LSVGWQSWKP AFPASHQLNE VSMSIQLRLF FKNNHAEFLNP N 51



## (2) INFORMATION ON SEQ ID NO. 348:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 150 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 348:

RHAGGGALGN LPPQPPGSGV MHPETCPSTF LASPLPHSIA PGLFLLDFVL VLALFLIFFY 60  
 YESPGRRGDS GSWPGPGRQV ALEMKGKLCR GAELSLCFSE FPLLLPLHTP VAGRNLGFPE120  
 SLGVPPFLPH PGGTPRAPGL FLLLFSEWAV 150

## (2) INFORMATION ON SEQ ID NO. 349:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 131 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 349:

RSFLTRSVIK LPKRKTRGET SPGPWAFPLG GVRVGPSPF QGSRGSFQPR GCEGEGVEEK 60  
 RRNRERAQRL DTDTFPSPGP PAVLAQASSH CHLCVQEIHN KKKSSTKPKP KQNPKGKDLG120  
 QWNEEEGRRG R 131

## (2) INFORMATION ON SEQ ID NO. 350:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 151 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 350:

RKKGETEREL SASTQTLSHL QGHLPWPRP APTVTSASRR FIIKKNQKQS QNQNKIQKEK 60  
TWGNGMRKRG GEEGRAGLW MHNSRARGLG RKIPQRPAC VALARHVVFG GRLPIHPVEI120  
LVAGLLGGVK PVSDRQAGKG LGDGGCGRER V 151

(2) INFORMATION ON SEQ ID NO. 351:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 108 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 351:

TLTAHEGRGG KCTEEDASQ QEGCTLGSDP ICLSESQVSE EQEEMGGQSS AAQATASVNA 60  
EEIKVARIHE CQWVVEDAPN PDVLLSHKDD VKEGEGGQES FPELPSEE 108

(2) INFORMATION ON SEQ ID NO. 352:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 77 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 352:

KFFGNSLHAT PKCTPITLWL FSEKDFSQIV PFTPLRAALG NSPDHLLPPS RHLCVTAGHP60  
GLEHPPPTD THEYGLP 77

350-351-352-353-354

## (2) INFORMATION ON SEQ ID NO. 353:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 122 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 353:

TYSIHLHSQT KLKSLKVHKK IAQLKSAEYT QNCHPTVFSV FPAILEPFPQT SSAPSHPKYA 60  
 IVFVILIKIL KQKFIVEQFM STKVCLSCSC PVCISSGFII QIKKILKNFL VTACMQPLSV120  
 PL 122

## (2) INFORMATION ON SEQ ID NO. 354:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 457 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 354:

PVCEPLSCGS PPSVANAVAT GEAHTYESEV KLRCLEGYTM DTDTDFTFCQ KDGRWFPERI 60  
 SCSPKKCPLP ENITHILVHG DDFSVMNRQVS VSCAEGYTFF GVNISVCQLD GTWEPPFSDE120  
 SCSPVSCGKP ESPEHGFVVG SKYTFESTII YQCEPGYELE GNRERVQCEN RQWSGGVAIC180  
 KETRCETPLE FLNGKADIEN RTTGPNVVYS CNRGYSLEGP SEAHCTENGT WSHPVPLCKP240  
 NPCPVPFVIP ENALLSEKEF YVDQNVSIKC REGFLLQGHG IITCNPDETW TQTSACEKI300  
 SCGPPAHVEN AIARGVHYQY GDMITYSCYS GYMLEGFLRS VCLENGTWTS PPICRAVCRF360  
 PCQNGGICQR PNACSCPEGW MGRLCCEPIC ILPCLNGGRC VAPYQCDCPP GWTGSRCHTA420  
 VCQSPCLNGG KCVRPNRCHC LSSWTGHNCS RKRRTGF 457

## (2) INFORMATION ON SEQ ID NO. 355:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 210 amino acids  
 (B) TYPE: Protein

(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 355:

GVRAASKEIE ELRRAHREGT SRAVTGEGPA AGRMTVPKQT QTPOLLPEAL EAQVLPREFQ 60  
RVLQVQAQVQ SQTQPRIPST DTQVQPKLQK QAQTQTSPEH LVLQKQVQF QLQQAEPQK120  
QVQPVQVQQA HSQGPQVQL QQEAEPLKQV QPVQVQAHF TAPRAGAAAA EEAGPDTDFS180  
TGAHTGHSQA SRHRELLPGA VFSFRPPGAG 210

(2) INFORMATION ON SEQ ID NO. 356:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 292 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 356:

GRAGRRTMF SQQQQQQLQQ QQQQLQQQLQ QQLQQQQQLQQ QQLLQLQQLL QQSPPQARCH 60  
GVSGGPPQPF QQPLLNQGT NSASLLNGSM RQRALLLQQL QGLDQFAMPP ATYDTAGLTM120  
PTATLGNLRG YGMASPGLA PSLTFFQLAT PNLQQFFPQA TRQSLLGPPP VGVPMNPSQF180  
NLSGRNPQKQ ARTSSSTPN RKDSSSQTMP VEDKSDPEEG SEEAAEPRMD TPEDQDLPPC240  
PEDIAKEKRT PAPEPEPCEA SELPAKRLRS SEEPTEKEPP GQLQVKAQPQ AG 292

(2) INFORMATION ON SEQ ID NO. 357:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 169 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

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(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 357:

```

PRRLPSVAVG MVRPAVSIVA GGIANWSSPC NCCKSKALCR MEPLRREAEL VPWRFRSGCC 60
GCCGGPPLTP WQRACGGDCW SSCWSCSNCC CCNCCCWSCC CCNCWSCCCC CWSCCCCCWL120
NMVARLPARP QRSSRPHGWA GPAAPTFRPG GSGPRAPGLP AATPGPVGS 169

```

(2) INFORMATION ON SEQ ID NO. 358:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 158 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 358:

```

ISKTKKYCGS PSSRIRLEGG HLEMRKARGG DHVPVSHEQP RGGEDAAAE PRQRPEPELG 60
LKRAVPGGQR PDNAKPNRDL KLQAGSDLRR RRRDLGPHAE GQLAPRDGVI IGLNPLPDVQ120
VNDLRGALDA QLRQAAGGAL QVVHSRQLRQ APGPPEES 158

```

(2) INFORMATION ON SEQ ID NO. 359:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 119 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 359:

```

QSLRTLNLKN KKVLWISLEP NSARGRSPGD EKGPRGGPCA CVPRAAERRG GRCCPGAQAE 60
ARARAGAOTS CPGGPEAGQC QAQPGPETAG WLRPPEATAG PWPSCRGSAG PEGWGHHWP 119

```

FBI/DOJ

## (2) INFORMATION ON SEQ ID NO. 360:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 187 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 360:

PPEFGWDAAE TDLLLAEEGS GWRGPHGQQV LGLLWRPRRL SKLPAVDHLQ SSPRSLAELG 60  
 IQGATEVVHL DIRQGVKAND DPIPQGQLTL CMRAKVPPSP PEVGASLQFQ VPVGLGIVRP120  
 LAPRDSSFEP QLWLWPLPGL LGSSVLPASR LLVGHHRMVP EAGLSHLQVT ALEPNSARGR180  
 STVLECF 187

## (2) INFORMATION ON SEQ ID NO. 361:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 86 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 361:

STIILGKSRI EFFSRCPTRV GQGPQSRLIN SHRIQTPGKI ALRSQLLSSL YGSRKNSTKM60  
 TGHPMVMMPM KPHLLEKPLN QNYLFS 86

## (2) INFORMATION ON SEQ ID NO. 362:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 83 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

(vi) ORIGIN  
(A) ORGANISM: HUMAN

ITKAIVFSFV FSSGYTVEVR ESLILLFGAI IKAMQQPKIK HFGSSQDDMS GDRSCGSHSN60  
NLMGPEEKTG VNVLSFYIMO ELC 83

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 117 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(vi) ORIGIN  
(A) ORGANISM: HUMAN

YKNDRSSYER HANETPSSGE ALESELSFFL MSSDAASFLI FLKTVCF CGM YICTPNYLAL 60  
GNHSTTQRQL NKEKFNFKYQ VLSNISQTS D FIKGLPANKV HPKYTGEKAR LLQGRV 117

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 83 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(vi) ORIGIN  
(A) ORGANISM: HUMAN

SCRCFYCMPD MPLTRFWRTF NSPRMTRRHS HVICIFS YQL QIVALLRLPP VQQEMERKHF60  
SFLHTTPLDN WKYFWVITIL GYF 83

## (2) INFORMATION ON SEQ ID NO. 365:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 144 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 365:

QYGPSRVEVE MSYRIANTLG SFLPRLAQSR QQQQNVEDAM KEMQKPLARY IDDEDLORML 60  
 REQEREGDPM ANFIKKNKAK ENKNKKVRPR YSGPAPPPNR FNIWPGYRWD GVDRSNGFEQ120  
 KR FARLASKK AVEELAYKWS VEDM 144

## (2) INFORMATION ON SEQ ID NO. 366:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 116 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 366:

KPTKHRCCQH PKKYRYLNPN IRSRIFFCGQ NWHSTSCWSV WAPIISTDNC YHWISRCCLCP 60  
 LPQPSHPHSL RKVTYPQHSI CRQVPPLPSC WQAWQSASVQ IHWICPLRPS DIQARY 116

## (2) INFORMATION ON SEQ ID NO. 367:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 160 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

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(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 367:

```

SSENPPNTAA VNTPRSTGTS IQTSGLEYSS VVKTGIIQQA GLCGLQLLAQ TTVTTGYLAA 60
YAHYHSPATP TASGKLHILN TPFVGKFLHC LLAGKPGKAL LFKSIGSVHS VPAISRPAIK120
SVGRRCWTTV ARSHFFILVL LGLILLDEVG HRVPLSFLFS                               160

```

(2) INFORMATION ON SEQ ID NO. 368:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 227 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 368:

```

WESMNRWYVK PLETSSSKVK AKTIVMIPDS QKLLRCELES LKSQLQAQTK AFEFLNHSVT 60
MLEKESCLQQ IKIQQLLEVL SPTGRQGEKE EHKWGMEQGR QELYGALTQG LQGLEKTLRD120
SEEMQRARTT RCLQLLAQEI RDSKKFLWEE LELVREEVTF IYQKLQAGED EISENLVNIQ180
KMOKTQVKCR KILTKMKQQG HETAACPETE EIPQEPVAAG RMTSRRN                               227

```

(2) INFORMATION ON SEQ ID NO. 369:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 155 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

367-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 369:

FIFSLEGSSG RAVPAAQAGG KGGALLLKGG WERSWSESES ESQEGSGGLR HWCPLWPLRL 60  
 EALGQAPEHK VRLSMEFCST CTADHISLSS FWRSSFQQPL APAVSLQSPD RRLSHDPAAS120  
 SWSGFCGISP AFSAFSECSP SSLRSHPPAL GASDR 155

## (2) INFORMATION ON SEQ ID NO. 370:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 114 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 370:

DLILLRLELL IDEGHLLPHQ FQLLPQELLA VPDLLGQQLQ AASGAGPLHL LTVTQGLLQP 60  
 LKALGQGPIQ LLPALLHAPL VLLLLSLAAC GAQHLFKLLN LDLLQAALLL QHGH 114

## (2) INFORMATION ON SEQ ID NO. 371:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 201 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 371:

TASTLRAVFP RPASESPPLR ARSDAEDLTA AMSSNECFKC GRSGHWAREC PTGGGRGRGM 60  
 RSRGRGFQFV SSSLPDICYR CGESGHLAKD CDLQEDACYN CGRGGHIAD CKEPKREREQ120  
 CCYNCCKPGH LARDCDHAE QKCYSCGEFG HIQKDCTKVK CYRCGETGHV AINCSKTSEV180  
 NCYRCGESGH LARECTIEAT A 201

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## (2) INFORMATION ON SEQ ID NO. 372:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 189 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: ORF

## (iii) HYPOTHETICAL: yes

## (vi) ORIGIN

- (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 372:

LATAVTVDFT CLAAVDGYMT SFTTPIALHF GAVFLNVSEF STRIAFL LIC MVAVTSQMAW 60  
 FATVVAALLS LSLGLLAVLG NVATSTAVIA GILLKITILG KMTRLTTAIT NIWKRRGNKL120  
 ETSATASHST TTASTSRTEP GPVARSSLE ALIAAHGCSQ IFRVGAGPQR RRLGRRPGED180  
 GSQGRGCLF 189

## (2) INFORMATION ON SEQ ID NO. 373:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 316 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: ORF

## (iii) HYPOTHETICAL: yes

## (vi) ORIGIN

- (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 373:

GGDPVVSSSY RSVGCSEQQK PASSDVVLPA TMSYTGfVQG SETTlQSTYS DTSAQPTCDY 60  
 GYGTWNSGTN RGYEGYGYGY GYQDNTTNY GYGMATSHSW EMPSSDTNAN TSASGSASAD120  
 SVLSRINQRL DMVPHLETDM MQGGVYGSGG ERYDSYESCD SRAVLSERDL YRSGYDYSEL180  
 DPOMEMAYEG QYDAYRDQFR MRGNDTFGPR AQGWARDARS GRPMAAGYGR MWEDPMGARG240  
 QCMSGASRLA LPLLPEHHPR VRHVPGACEV GAPSRAASRF GFRVWQWHEA DEGGLGRRGP300  
 QPICEPRRRR ESRAAF 316

372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

## (2) INFORMATION ON SEQ ID NO. 374:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 200 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 374:

IPAALLTGS I RMPPCFLFFF LVRKSAVVPV FPVRPHLLHA IAKPENQNGK PPGKAPQPRM 60  
 PLEHAVLGDD VLGEEGGQAE RHQTCTGPGP PWGLPTCAHS LRPLAGRS GH PGPSFVPWDR120  
 RCRCHACGTG RGRHRIGPHR PFPSQGQARC SHSLTGTGRA HSGRPSSRRT HKSHTFLHLS180  
 RTRLLASCLS PNAAPYLSAG 200

## (2) INFORMATION ON SEQ ID NO. 375:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 218 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 375:

STSHDCVPQA DAAAYSRTAD GETEARGGRG GADLPASPSP RPRLAPPWPV RSTRGARRRR 60  
 TARGQAGSSS AMAAQLGKR VLSKLQSPSR ARGPGGSPGG LQKRHARVTV KYDRRELQRR120  
 LDVEKWIDGR LEELYRGMEA DMPDEINIDE LLELESEEER SRKIQGLLKS CGKPVDFIQ180  
 ELLAKLQGLH RQPGLRQPSP SHDGSLSP LQ DRARTAHF 218

(i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 112 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 376:

NQLKLKQQAG SFSQEGCKGE NILSFLQGN HCPGVPASGR HNLSKVQGML ARKGGILDCC 60  
LLSEPSPTPQ PASWCLFSSK LSLPNLSSSE GKRESVPGFS RVGERTGKGT DI 112

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 96 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 377:

VRPEHSLMVL SLDTPTSYLQ FSRRRASGTL GCKPNLGSMF ALNPNSQRRS ECIFHHAAAG60  
CWPRFCVFSQ PSEITSFLVA VTNSSWTTMK LIYFPI 96

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 145 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 378:

145

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 429 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 379:

429

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 169 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 380:

DVFHEGDLIG NFRVHLCDSL DVLSVLPAGK HIGECQGLQT SVDKVRLGGW FLEIFSFAVL 60  
 EHSLHRTL PV GGPADAGGTS DLVLDGPPAL PEVHLVVIVN KEKCWLGRAV QIFLQEGHGT120  
 DHRGGSGRVH KLCGCKIPRG AAEDQAGRE VKTSRILKHA IVGFPVSPS 169

(2) INFORMATION ON SEQ ID NO. 381:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 234 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 381:

GIPSEWLGA FITLVYCDFA ATMQSCFQGT LFLDLVRSGP SDLLRVGLGF ASVPQVDEGL 60  
 VDVKHHHGSS GPQAATVTGH FQIPEFHGHL STHAVQPPLT LHIFFFLFPP PRVHHHPLE120  
 TLQETGGLLS LENLDLGPPF LVQLHRHQRR RALLTHGGVP ALPEEVDALL FAGCPHRVLS180  
 LLATSHCRAH HELPLDHIGI PLMELPDALF GEPAIVEFQD VPDHGNAGD LKLP 234

(2) INFORMATION ON SEQ ID NO. 382:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 81 amino acids
- (B) TYPE: Protein
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 382:

RLFAPLRTSW AVVIPGARVA LCFYKIMTYV TCLHVCLLVE FLNSQLTNHR KYYFLSYGEW60  
 FTGLRGFSEY LWPQQHTQFP S 81

"DDB" DATE 7/3/83

## (2) INFORMATION ON SEQ ID NO. 383:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 61 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 383:

IVNRTTACTL FEVNLEWKAR DYTLEFKIDIC GAHTIYEIVP SKKEKKKIRR SNLEQHCLIK60  
A 61

## (2) INFORMATION ON SEQ ID NO. 384:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 56 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes
- (vi) ORIGIN
  - (A) ORGANISM: HUMAN
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 384:

PPDFFFLFFR GYYFIYCVSP TNVYFKKSIV PGLPFQIHLK ESTCSSPVYN LIEMRK 56

## (2) INFORMATION ON SEQ ID NO. 385:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 139 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: ORF
- (iii) HYPOTHETICAL: yes

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- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 385:

LDSSHCCSCS TALFRTQTTA AAVPRMVIRV YIASSSGSTA IKKKQQDVLG FLEANKIGFE 60  
 EKDIAANEEN RKWMRENVPE NSRPATGYPL PPQIFNESQY RGDYDAFFEA RENNAVYAFL120  
 GLTAPPGSKE AEVQAKQQA 139

- (2) INFORMATION ON SEQ ID NO. 386:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 95 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 386:

ETKHILLFLL NRCRARGRCN IYTDHHPGNS GCGCLGPEKG CGAAAAMAGI QLGAETAVGR60  
 EGWGKVEGEL ARAPPPPLAA STELSKRCSS SPKPR 95

- (2) INFORMATION ON SEQ ID NO. 387:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 96 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 387:

FCIHFECLHV KTQLIYYFNI KPISFEAKLI LLFYKSNNGDS FFRMLKAQCL RFMLAALLAL60  
 LLPLNQVGLS SLRRHTLHYF LWLQRRHSP RDTGFH 96

"BIOBASE" 04252350

## (2) INFORMATION ON SEQ ID NO. 388:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 221 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 388:

FIMLNIILIK FSSFSIRCAI LSSVCLNEAI TFAFLQVFL WNMDKYTMIR KLEGHHHDVV 60  
 ACDSPDGAL LATASYDTRV YIWDPHNGDI LMEFGHLEPP PTPIFAGGAN DRWVRSVSFS120  
 HDGLHVASLA DDKMVREFWRI DEDYPVQVAP LSNGLCCAFA TDGSVLAAGT HDGSVYFWAT180  
 PRQVPSLQHL CRMSIRRVMP TQEVQELPIP SKLLEFLSYR I 221

## (2) INFORMATION ON SEQ ID NO. 389:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 118 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 389:

KGGATCPESP QDRKRRGNLD MEKLYSENEG MASNQGMEN EEQPQDERKP EVTCTLEDKK 60  
 LENEGKTENK GKTGDEMLK DKGKPESEGE AKEGKSEREG ESEMEEVERE GTRGRGSG 118

## (2) INFORMATION ON SEQ ID NO. 390:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 138 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 390:

RFPYLGFP LS RPPPSLTLP SLTFLLLP HSLAFLYPLT FPHLLFCPCF LSFPRFLTSC 60  
LPEYKLLAF SRLVAVLHFP SFLGLKPFH FHC RVFPCRD FPSFSCPAGI LDRLLLLFSF120  
AERWEQQTRR PGRSWTKN 138

(2) INFORMATION ON SEQ ID NO. 391:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 3218 base pairs

(B) TYPE: Nucleic acid

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

390391 390391 390391

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 391:

GCGACCACGA GCTGGTGCAT CCATCAGTAC CCTTGCCGGA CTTTCCCTTA AAGAAGGAGA 60  
 GGATCAGAAA GAGATAAAGA TTGAGCCAGC TCAGGCTGTG GATGAAGTGG AACCTCTACC 120  
 TGAAGACTAT TATACAAGAC CAGTAAATTT AACAGAGGTA ACAACCCCTT AGCAGCGTCT 180  
 GTTACAGCCT GACTTCCAGC CAGTCTGTGC TTCACAGCTC TATCCTCGCC ACAAACATCT 240  
 TCTGATCAAA CGGTCCCCTGC GCTGCCGTAA ATGTGAACAT AATTTGAGCA AGCCAGAATT 300  
 TAACCCAACG TCAATCAAAT TCAAAATCCA GCTGGTCGCT GTCAATTATA TTCCAGAAGT 360  
 GAGAATCATG TCAATTCCCA ACCTTCGCTA CATGAAGGAG AGCCAGGTCC TCCTGACTCT 420  
 TACAAATCCA GTTGAGAACC TCACCCATGT GACTCTCTTC GAGTGTGAGG AGGGGGACCC 480  
 TGATGATATC AACAGCACTG CTAAGGTGGT GGTGCCTCCC AAAGAGCTCG TTTTAGCTGG 540  
 CAAGGATGCA GCAGCAGAGT ACGATGAGTT GGCAGAACCT CAAGACTTTC AGGACGATCC 600  
 TGACATTATA GCCTTCAGAA AGGCCAACAA AGTGGGTATT TTCATCAAAG TTACACCACA 660  
  
 GCGTGAGGAG GGTGAAGTGA CCGTGTGCTT CAAGATGAAG CATGATTTTA AAAACCTGGC 720  
 AGCCCCCATT CGCCCCATTG AAGAAAGTGA CCAGGGAACA GAAGTCATCT GGCTCACCCA 780  
 GCATGTGGAA CTTAGCTTGG GCCCACTTCT TCCTTAAAAG GTTCCACTGG AGGGCAGATC 840  
 CCAAAGGACA GTATCACCGT AAACCTGCGT TAAAATGTGG AAGCTGCTGC TTCATTAGGC 900  
 CTTGTTTATA ACGATGTACC CATGCACTAC GGAATTCTAT TGCTAAGAAA GTGGGAGCAT 960  
 AGGCAAGGCA TTGGGAACAC AGGGTAGCTG CTGTTGCTCT TGCTCTCACC CCTGTTGACA 1020  
 CCAGTAAGTC TGTGTCTCCC TCACTGAACC CTGCACGTTG AGTAACAGCA GCATAATTCC 1080  
 ATCCTAGGAA AGGGGATGGG TGTTCCCTTG AATGGCATTG TATTACCAC CTGAGAAACT 1140  
 CTGTACTGTC TCTTGATCTG ATCTCACTAA GGATCACAAT GTCACAGATG AAACCTAAAT 1200  
 GATAACCCAA AGGTAGACCT GCTGTTAATG ATCCAGCATT GGTCACAATG TACCAACTGC 1260  
 TTTCTGCATT CCGTTAAATA TCATCTAACA GTCTAAAACA TATCCCTTCA TTGCCATAAT 1320  
 GGCTGCCATT TTGCCATAGA TTTCCATATA ACTGAAAAAC TGAATTGTCA CTTTATCTTT 1380  
 AGTATCATGA TGATTGGAAA AACCTGTGAA GTTGTTAAGG CACTCTCATT TGCCCTCTTT 1440  
 TTCTAAGTGA ATACAGGACA CGTATTAGTT GTTCTTAANN NNNNNNNNNN NNNNNNNNNN 1500  
 NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNNNNNNN NNNNCAAGGG GGTAGCAGAT 1560  
 TCCATTCTGT TTCAATATTG CCACAATACC CAGGGATTAA TGCTGCCACA GGGGGGCAAT 1620  
 CTTTATTTGT CTTACTTCCT ACCCCTTCCC TGTTCTGCCT CTTTAACTCA GTTAAGTTGT 1680  
 TCTGTTTGGG ACCTGGAAAA GAACCCAAAG AAAACCTGAG TGGACAGGTT CATTTCTGGA 1740  
 ATGCAGAAAA CTTTTTAAAG GCTAGATTTT TAGAATATTC TCAACTAGCA TTCTTTCCAT 1800  
 TGATTTGAAG GGGAAATTAA CTATTATAAT CTCTTGAATC CAAAACCTGGA TATTAAGAAC 1860  
 TTTCCCCCTT ACTAAGTTTA AGACTTTTGT CATGTGGTGA GTCAAATAAG ACCATTTTGA 1920  
 TTGTAAACCA TAAAATAGTT CAGCAAGTAG CCCACAGTTC TGGCCTAACA GCAGACTTGC 1980  
 TGTTTTTCACT TGGTATCCTG GAGTTGGGTT GCTAACCTTA ATTTCTATGA TGTTTTCTAA 2040  
 AATGAAACTT GATAAAGTAG ACCACCAGCT GCACCGTGTT TTCTGTAAAA GTATTGTTAG 2100  
 TAAGTGGCCA AGAGACTTGA GGAAAATACA GATTTTTTGT TTACCTTGGT CTGTGTTTAA 2160  
 GTCTTAAAAA ATTAAAGATA ACATTATAAT GTAGAATACA GATGGGACAT AGTCCTTGTA 2220  
 AGCTTCCCTT GAAAATGTTT TAAATATTTA GGAAGCTTTT AAAAGACACT AAATGTACT 2280  
 CTAAAAGACA CTAAATTGTA CTAATTGTAC AAAGGTCAAG CCAATTTTAT GAAACAGTCC 2340  
 TACAGAGTAA TATATGTGAT GCAGTGTAAG AAGGAAAATA CTCATCTCTA ACATTATGGT 2400  
 AATAACATTT AGCCTCTTAG GAGTTGGAGC AGGGGGATGG GTAATTACAG ATTTGCAGAC 2460  
 TATAGAAAGA GTTTCATTTT TTTGTGACCC CACAGAGTCT CAAATTTTTT TTTCACTACC 2520  
 TGCTAGAGCC TACTGTGAAA TCACTGCTCC ATATTTGCCA GTGGAGGAAA TGGGCATAGA 2580  
 GTAGAGAATA GCTTCATATG GTTTACACGT TTGCATAGAC TACACACATG TCATGCGTTT 2640  
 ATGGCAGGTA GCTGGTATTT ATCCCCAAAG TAATAATGTT GAAGTATGGG TCTCATCATT 2700  
 CCCATACACA GAAACACAAA ACACTTTGAT CATAAACTTT TTTCTTCAGA AGCCAAACTA 2760  
 ACTTGACAGAA TAATAGAGCC ACTGGTTTAA TGTTTCCTCA AGATAGGTTT TAGTGTAAGC 2820  
 TAGTATTCTG TGTGTTCTGA GAAATGATT CATAACCTGCA GCTGGTGAAT TAGGAATTGT 2880  
 ATTTGTTGCC TTTTTTATAT TAGATGAGGT GCAAAAATTT TAATGCTAGT CAGTATGCAC 2940  
 CACCACAGGA AAGTTAGATC CCATTAGCAC TTGAAACTAC AGCTTTGGAA ACTTAGGCTA 3000  
 AGTTAATTTG GATTTGTTAC TTGATTCACC TACTGACCTT TTCTTTTGTT TGAAGTGCTT 3060  
 ATCAGCATAA TGAGCTAAGT GTCATGCATA TTTGTGAAGA AACACCCCTT TTGGTCCCTT 3120  
 TTGGGACAGA GAGGTACTCC TTGATCTTTA TGAATGACAG GTTACTGTTT TGCCTTATTG 3180  
 CTTAACTTAA TGTAGTGAAA TAAAGCAGAC AAAGCTTG 3218

## (2) INFORMATION ON SEQ ID NO. 392:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 750 base pairs
  - (B) TYPE: Nucleic acid
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGIN:
  - (A) ORGANISM: HUMAN
  - (C) ORGAN:
- (vii) OTHER ORIGIN:
  - (A) LIBRARY: cDNA library
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 392:

GTGAGGGACA GATGGACAGA ATGCAGAGGT ACATAGATGA GCTGAGGCTG ATCCAGCTCC 60  
 CCTGAAATTC AGAGTGTTAA CTTTGTAGAC CCTGCACAAT CTCTTGGTGC TATCTAGCCA120  
 TTACCCCAT TTTTTTTTA AAGGCCATCT GAAATTCCAT TTGTCATGGT GGAAGCATT180  
 TTGGATATGA TGCAGGAAAT CTCTTCCTGG AGTCAAAGT TCCCAAGAGG TCCTGTATTT240  
 TTAAGAAATG GAATTTATTT AAATAATATT TAAGCTTGTG CCCATGTTGG CCGGGCAACT300  
 TTTTTCATG GTGCTTATTA GAAGAAGTTT TTTCATCTTG TCATTTTAAG AAAATAAAC360  
 TGGAAATTGA ATATGGGTGG CATGATTGTA CCCTTTTAGT TCTCTTATTT TTCTACTCCT420  
 CTGTCCCTCT ATAACATATG CATACTATTA GATGCTGGTC CACTGAATGC TGAGATGATC480  
 TGTTTTTTGG GGTTTTTTTT TTTTAAGAAA TATTTTCACT GGTTTTCTGT GACTCTCTAA540  
 ACACTTCATC GAAACTAGGA AGACTGAATT ATGAGGGAAA CTATTTGGGA TTAGTGCCA600  
 GAAACGATGA AATCTTATAG ATCTTTTGAC AGTTTCTCTG TTTAGGGGGA GCCTAGGACT660  
 GATATCCAAG TTTCTTCCAT ATCCAAGCTT CATTGGGGGA CCCCATTG GCTTTAACAG720  
 GTGACCCGCG CCTCTTTACC GGGCTTCCAG 750

## (2) INFORMATION ON SEQ ID NO. 393:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 546 base pairs
  - (B) TYPE: Nucleic acid
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing
- (iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 393:

CACGAGGAGG CCGGGAGTGG AACCCCTCT TTTGAGAAGG TTGCCTGACT CAGAGACACA 60  
 GAAACGGGTC CAGGGATGGG GAGAGATGTG GAGTGAGGGA AGGTTTGCAT TTGAGAAAGG120  
 AAGTTCGAGA ACACACTGGG ACATTGTAAC ACATTGTAAC CATCTTCTGA TAGAAAGGTG180  
 TTGGCCTCCT AATAATGGGA GGTCAGGGCC AGGTCCTCGG GCATAGGGAG AGGGTCCGGA240  
 GAATGCTGCA GACCCCTGCC CACTGCCCAC GGTCTCCGCT CCCTGCACCT GCCTCTGATG300  
 GTGCAGCTCT GATTCCGTGT CTCTCCTCAT TGCAGATTTA TGAAGGTGCC TACCATGTTT360  
 TCCACAAGGA GCTTCCTGAA GTCACCAACT CCGTCTTCCA TGAAATAAAC ATGTGGGTCT420  
 CTCAAAGGAC AGCCACGGCA GGAAGTGGT CCCCACCTG AATGCATTGG CCGGTGCCCCG480  
 GCTCATGGTC TGGGGGATGC AGGCAGGGGA AGGGCAGAGA TGGCTTCTCA GATATGGCTT540

GCAAAA

546

(2) INFORMATION ON SEQ ID NO. 394:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 2453 base pairs

(B) TYPE: Nucleic acid

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual  
ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

(A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cDNA library

10555-0055-0055

CTGTACGGGA	CCAAGGCGGC	GGGAGTCTGC	GGTCGTTCCC	TCGGCTGTGG	ACCGGGCGGC	60
ACGACGCGGT	GCAGGGTAAC	ATGGCGGATG	CGGAAGTAAT	TATTTTGCCA	AAGAAACATA	120
AGAAGAAAAA	GGAGCGGAAG	TCATTGCCAG	AAGAAGATGT	AGCCGAAATA	CAACACGCTG	180
AAGAATTTTT	TATCAAACCT	GAATCCAAAG	TTGCTAAGTT	GGACACGTCT	CAGTGGCCCC	240
TTTTGCTAAA	GAATTTTGAT	AAGCTGAATG	TAAGGACAAC	ACACTATACA	CCTCTTGCAT	300
GTGGTTCAAA	TCCTCTGAAG	AGAGAGATTG	GGGACTATAT	CAGGACAGGT	TTCATTAATC	360
TTGACAAGCC	CTCTAACCCC	TCTTCCCATT	AGGTGGTAGC	CTGGATTCGA	CGGATACTTC	420
GGGTGGAGAA	GACAGGGCAC	AGTGGTACTC	TGGATCCCAA	GGTGACTGGT	TGTTTAATCG	480
TGTGCATAGA	ACGAGCCACT	CGCTTGGTGA	AGTCACAACA	GAGTGCAGGC	AAAGAGTATG	540
TGGGGATTGT	CCGGCTGCAC	AATGCTATTG	AAGGGGGGAC	CCAGCTTTCT	AGGGCCCTAG	600
AAACTCTGAC	AGGTGCCTTA	TTCCAGCGAC	CCCCACTTAT	TGCTGCAGTA	AAGAGGCAGC	660
TCCGAGTGAG	GACCATCTAC	GAGAGCAAAA	TGATTGAATA	CGATCCTGAA	AGAAGATTAG	720
GAATCTTTTG	GGTGAGTTGT	GAGGCTGGCA	CCTACATTCG	GACATTATGT	GTGCACAGTG	780
ATCAGTCACG	CGCACGAGGT	ACGTCAGATG	CAGGAGCTTC	GGAGGGTTCG	TTCTGGAGTC	840
ATGAGTGAAG	AGGACCAGAT	GGTGACAATG	CATGATGTGC	TTGATGCTCA	GTGGCTGTAT	900
GATAACCACA	AGGATGAGAG	TTACCTGCGG	CGAGTTGTTT	ACCCTTTGGA	AAAGCTGTTG	960
ACATCTCATA	AACGGCTGGT	TATGAAAGAC	AGTGCAGTAA	ATGCCATCTG	CTATGGGGCC	1020
AAGATTATGC	TTCCAGGTGT	TCTTCGATAT	GAGGACGGCA	TTGAGGTCAA	TCAGGAGATT	1080
GTGGTTATCA	CCACCAAAGG	AGAAGCAATC	TGCATGGCTA	TTGCATTAAT	GACCACAGCG	1140
GTCATCTCTA	CCTGCGACCA	TGGTATAGTA	GCCAAGATCA	AGAGAGTGAT	CATGGAGAGA	1200
GACACTTACC	CTCGGAAGTG	GGGTTTAGGT	CCAAAGGCAA	GTCAGAAGAA	GCTGATGATC	1260
AAGCAGGGCC	TTCTGGACAA	GCATGGGAAG	CCCACAGACA	GCACACCTGC	CACCTGGAAG	1320
CAGGAGTATG	TTGACTACAG	TGAGTCTGCC	AAAAAAGAGG	TGGTTGCTGA	AGTGGTAAAA	1380
GCCCCGCGAG	TAGTTGCCCA	AGCAGCAAAA	ACTGCGAAGG	GAAGCGGAGA	GAGTGAGAGT	1440
GAAAGTGACG	AGACTCCTCC	AGCAGTCTCT	CAGTTGATCA	AGAAGGAAAA	GAAGAAGAGT	1500
AGAAGGACA	AGAAGGCCAA	AGCTGGTCTG	GAGAGCGGGG	CCGAGCCTGG	AGATGGGGAC	1560
AGTGATACCA	CCAAGAAGAA	GAAGAAGAAG	AAGAAAAGCA	AAGAGGTAGA	ATTGGTTTCT	1620
GAGTAGTGAA	GGCCACTTGA	AGCTGGAGGA	GAAACTAAAG	CCTTATTGAG	AAAACATGTT	1680
ATAGATCCTT	TTGTTGCTGA	GAGAGTGGAA	CATAGGTCCT	AGACAGGGTG	AAGAGTTCTG	1740
GCACATTTTA	GCTGCTACTT	TGAGACCTCG	GTGATGTTAC	CTGGTGTGGT	CATCCCATCT	1800
TGTCCTGTTT	TAAGGATATG	GGTGGTGAAA	GATGAAAGAG	GCAGAGTTTA	TCCCAATGAC	1860
TTCTCTGTTT	GAGTTGGGAA	GCCTCACCTT	CAGACCCAGT	AACTGTCCGC	AGCTGTCTGC	1920
TAGTGGTTGT	CTTAACATCG	TAGTCCTAGT	TTGCATTTTT	TAAATCCCCT	CTGTTTAAAA	1980
GGTTTGTAAG	ACAAAAACAA	AAAACCTAAGT	CTGCTCAGTG	AAATGCTGTA	GAACCCTAAA	2040
TAAGTGGTAG	AAGAGTGTCA	CTGAATTTTG	TCTCTGAATT	CAGTATAACT	GAGTTTTGTC	2100
CATGCTGGTG	TCTGGGTAT	AGGCCTGATG	GGCCTGGTAG	TTTTCCATCT	TGTTCTGGCC	2160
TAGAGGTCAG	TCCTTTGCAC	TTCTCAAAG	CTTGTGTACA	GTGCTCACCT	AAATCCATCT	2220
GACTACTTGT	TCTGTGCC	TCTTGTTTTA	GGCCTCGTTT	ACTTTTAAAA	AATGAAATTG	2280
TTCACTTGCTG	GGAGAAGAAT	GTTGTAATTT	TTACTTATTA	AAGTCAACTT	GTTAAGTTTT	2340
TTATGTATTC	CTGTTGGGTT	TTCTGTTTGA	TCTCATGCTA	GCAGAGCAAA	AATTGTAAAA	2400
TATTTTGATT	AAAAATCTAG	GGACCTTTAT	GTCCTATTTG	AAAAAAAAAA	AAA	2453

## (2) INFORMATION ON SEQ ID NO. 395:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2706 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 395:

GGGAGGAAGG AGACTACACC TGCTTTGCTG AAAATCAGGT CGGGAAGGAC GAGATGAGAG 60  
TCAGAGTCAA GGTGGTGACA GCGCCCGCCA CCATCCGAA CAAGACTTAC TTGGCGGTTC 120  
AGGTGCCCTA TGGAGACGTG GTCAGTGTAG CCTGTGAGGC CAAAGGAGAA CCCATGCCCA 180  
AGGTGACTTG GTTGTCCCCA ACCAACAAGG TGATCCCCAC CTCCTCTGAG AAGTATCAGA 240  
TATACCAAGA TGGCACTCTC CTTATTGAGA AAGCCCAGCG TTCTGACAGC GGCAACTACA 300  
CCTGCTTGGT CAGGAACAGC GCGGGAGAGG ATAGGAAGAC GGTGTGGATT CACGTCAACG 360  
TCCAGCCACC CAGATCAAC GGTAACCCCA ACCCCATCAC CACCGTGCGG GAGATAGCAG 420  
CCGGGGGCGAG TCGGAAACTG ATTGAGTGCA AAGCTGAAGG CATCCCCACC CCGAGGGTGT 480  
TATGGGCTTT TCCCGAGGGT GTGGTTCTGC CAGCTCCATA CTATGGAAAC CGGATCACTG 540  
TCCATGGCAA CGGTTCCTTG GACATCAGGA GTTTGAGGAA GAGCGACTCC GTCCAGCTGG 600  
TATGCATGGC ACGCAACGAG GGAGGGGAGG CCAGGTTGAT CCTGCAGCTC ACTGTCCTGG 660  
AGCCCATGGA GAAACCCATC TTCCACGACC CGATCAGCGA GAAGATCACG GCCATGGCGG 720  
GGCCACAACA TTCAGCCTCA ACTGCTCTGC CGCGGGGACC CCGACACCCA GCCTGGTGTG 780  
GGTCCTTCCC AATGGCACCG ATCTGCAGAG TGGACAGCAG CTGCAGCGCT TCTACCACAA 840  
GGCTGACGGC ATGCTACACA TTAGCGGTCT CTCCTCGGTG GACGCTGGGG CCTACCGCTG 900  
CGTGGCCCGC AATGCCGCTG GCCACACGGA GAGGCTGGTC TCCCTGAAGG TGGGACTGAA 960  
GCCAGAAGCA AACAAGCAGT ATCATAACCT GGTGAGCATC ATCAATGGTG AGACCCTGAA1020  
GCTCCCCCTG ACCCCTCCCG GGGCTGGGCA GGGACGTTTC TCCTGGACGC TCCCCAATGG1080  
CATGCATCTG GAGGGCCCCC AAACCCTGGG ACGCGTTTCT CTTCTGGACA ATGGCACCCCT1140  
CACGGTTCTG GAGGCCTCGG TGTTTGACAG GGGTACCTAT GTATGCAGGA TGGAGACGGA1200  
GTACGGCCCT TCGGTCACCA GCATCCCCGT GATTGTGATC GCCTATCCTC CCCGGATCAC1260  
CAGCGAGCCC ACCCCGGTCA TCTACACCCG GCCCGGGAAC ACCGTGAAAC TGAAGTGCAT1320  
GGCTATGGGG ATTCCCAAAG CTGACATCAC GTGGGAGTTA CCGGATAAGT CGCATCTGAA1380  
GGCAGGGGTT CAGGCTCGTC TGTATGGAAA CAGATTTCTT CACCCCCAGG GATCACTGAC1440

FBI/DOJ - DNA Lab



CATCCAGCAT GCCACACAGA GAGATGCCGG CTTCTACAAG TGCATGGCAA AAAACATTCT1500  
 CGGCAGTGAC TCCAAAACAA CTTACATCCA CGTCTTCTGA AATGTGGATT CCAGAATGAT1560  
 TGCTTAGGAA CTGACAACAA AGCGGGGTTT TTAAGGGAAG CCAGGTTGGG GAATAGGAGC1620  
 TCTTAAATAA TGTGTCACAG TGCATGGTGG CCTCTGGTGG GTTCAAGTT GAGGTTGATC1680  
 TTGATCTACA ATTGTTGGGA AAAGGAAGCA ATGCAGACAC GAGAAGGAGG GCTCAGCCTT1740  
 GCTGAGACAC TTTCTTTTGT GTTTACATCA TGCCAGGGGGC TTCATTCAGG GTGTCTGTGC1800  
 TCTGACTGCA ATTTTCTTT TTTTGCAAAT GCCACTCGAC TGCCTTCATA AGCGTCCATA1860  
 GGATATCTGA GGAACATTCA TCAAAAATAA GCCATAGACA TGAACAACAC CTCACTACCC1920  
 CATTGAAGAC GCATCACCTA GTTAACCTGC TGCAGTTTTT ACATGATAGA CTTTGTTCCTA1980  
 GATTGACAAG TCATCTTTCA GTTATTCCCTC TGCACTTCA AAACCTCCAGC TTGCCAATAA2040  
 GGATTTAGAA CCAGAGTGAC TGATATATAT ATATATTTTA ATTCAGAGTT ACATACATAC2100  
 AGCTACCATT TTATATGAAA AAAGAAAAAC ATTTCTTCCT GGAACCTACT TTTTATATAA2160  
 TGTTTTATAT ATATTTTTTT TCCTTTCAAA TCAGACGATG AGACTAGAAG GAGAAATACT2220  
 TTCTGTCTTA TTAAAATTAA TAAATTATTG GTCTTTACAA GACTTGGATA CATTACAGCA2280  
 GACATGGAAA TATAATTTTA AAAAATTTCT CTCCAACCTC CTTCAAATTC AGTCACCACT2340  
 GTTATATTAC CTTCTCCAGG AACCTCCAG TGGGGAAGGC TGCGATATTA GATTTCTTG2400  
 TATGCAAAGT TTTTGTGAA AGCTGTGCTC AGAGGAGGTG AGAGGAGAGG AAGGAGAAAA2460  
 CTGCATCATA ACTTTACAGA ATTGAATCTA GAGTCTTCCC CGAAAAGCCC AGAACTTCT2520  
 CTGCAGTATC TGGCTTGTC ATCTGGTCTA AGGTGGCTGC TTCTTCCCCA GCCATGAGTC2580  
 AGTTTGTGCC CATGAATAAT ACACGACCTG TTATTTCCAT GACTGCTTTA CTGTATTTTT2640  
 AAGGTCAATA TACTGTACAT TTGATAATAA AATAATATTC TCCCCAAAAA AAAAAAAAAA2700  
 AAAAAA 2706

(2) INFORMATION ON SEQ ID NO. 396:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2242 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 396:

2242

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 397:

GCCAAGGCGG	GTGATCACCT	GAGGTCAGGA	GTTCAAGACC	AGCCTGGCCA	ACATGGCAAA	360
ACCCTGTCTC	TACTAAAAAG	TAAAAAAAT	TAGCCGGGCA	TGGTGGCTTG	TGCTTG TAGT	420
CCCACTTCAG	TCTAAGTAGC	TGGGACTACA	GGCACGTGCC	ACNAGGCCCA	GCTAATGTGG	480
GTGTTTTGTT	AGAGATGAGG	TAGGGCCATA	TTGCCCAGGC	TCGTCTTGAA	CACCGGGGCT	540
CAAGGAATCT	GCCCATCTTC	GCCTCCCAAA	GTTCTGAGAT	AGCAGGTGTG	AGTCANTCAT	600
GCCCAGCCTC	CTTGAAGTTT	ACTAACAATT	GGGATAACTG	AGGGAAGAGA	AGTGACAATT	660
CCACTCAGTC	TATTAGAGGT	CTGGATATAA	GGTAGNCCAC	ACAATAACTC	TAACNTTGAC	720
TTCTAACCAT	TCTATCTTAT	TGNATTTGGA	GGCTGTCTTC	TGNCCAGATT	TTTTGTGGCT	780
TGAGATGATA	TTTTNCGAAC	CCTTCTTTCA	CTACCTTTCT	TACCCTTAAT	GTGNCCAAGC	840
TTGAAACAGG	ATTTTGATTTC	CTGAGCNTAC	TTGTTTCNGCC	TTCTGTGCGT	CANCCAAGTA	900
ATCTGGTTCA	TCTTTNCGTN	CTCATTCATG	TTATTTTCAA	GTGAAACAAG	ACATTTTGGG	960
GGNTCAAGTC	TCNTTTGGGN	NTGTTTTGTT	TTATTGTATA	TAAAAATGGA	TTTTGNTGTT	1020
CCCTTTCCNA	TGTNAAGTAN	CCAAC TTATA	TGGAAACTCA	CAATCATAAT	GTAAAGAAGA	1080
AATGAAANGC	CTGGTGTATT	GTACTTCAAG	ATGCCTCCCT	GNATGTATAG	AATCNTCCTT	1140
GTAAAAATAAA	TAATTGNCAT	TGTATATCAG	TCTTCCCATC	AATATTAATT	ATTAAATATT	1200
TTAGAATTTT	TAAATACCAA	CTATAAAAAA	AAAAAAA			1239

## (2) INFORMATION ON SEQ ID NO. 398:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1663 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 398:

GAACCTGCTC TCCTGCTTGC TGGTCCCTTG ACGCAGAGAC CGTTGCCTCC CCCACAGCCG 60  
 TTTGACTGAA GGCTGCTCTG GAGACCTAGA GTAAAACGGC TGATGGAAGT TGTGGGACCC 120  
 ACTTCCATTT CCTTCAGTCA TTAGAGGTGG AAGGGAGGGG TCTCCAAGTT TGGAGATTGA 180  
 GCAGATGAGG CTTGGGATGC CCCCTGCTTT GACTTCAGCC ATGGATGAGG AGTGGGATGG 240  
 CAGCAAGGTG GCTCCTGTGG CAGTGGAGTT GTTGCCAGAA ACAGTGGCCA GTTGTATCGC 300  
 CTATAAGACA GGGTAAGGTC TGAAGAGCTG AGCCTGTAAT TCTGCTGTAA TAATGATAGT 360  
 GCTCAAGAAG TGCCTTGAGT TGGTGTACAG TGCCATGGCC AGCAAGAATC CCAGATTTCA 420  
 GGTTTTATTA CAAAATGTAA GTGGTCACTT GGCATTGTTG TAGTACATGC ATGAGTTACC 480  
 TTTTTTCTCT ATGTCTGAGA ACTGTGAGT TAAACAAGA TGGCAAAGAG ATCGTTAGAG 540  
 TGCACAACAA AATCACTATC CCATTAGACA CATCATCAAA AGCTTATTTT TATTCTTGCA 600  
 CTGGAAGAAT CGTAAGTCAA CTGTTTCTTG ACCATGGCAG TGTCTGGCT CCAAATGGTA 660  
 GTGATTCCAA ATAATGGTTC TGTTAACTT TTGGCAGAAA ATGCCAGCTC AGATATTTTG 720  
 AGATACTAAG GATTATCTTT GGACATGTAC TGCAGCTTCT TGTCTCTGTT TTGGATTACT 780  
 GGAATACCCA TGGGCCCTCT CAAGAGTGCT GGAATTCTAG GACATTAAGA TGATTGTCAG 840  
 TACATTAAAC TTTTCAATCC CATTATGCAA TCTTGTTTGT AAATGTAAAC TTCTAAAAAT 900  
 ATGGTTAATA ACATTCAACC TGTTTATTAC AACTTAAAAG GAACTTCAGT GAATTTGTTT 960

TTATTTTTTTA ACAAGATTTG TGAAGTGAAT ATCATGAACC ATGTTTTGAT ACCCCTTTTTT1020  
 CACGTTGTGC CAACGGAATA GGGTGTGTTGA TATTTCTTCA TATGTTAAGG AGATGCTTCA1080  
 AAATGTCAAT TGCTTTAAAC TTAAATTACC TCTCAAGAGA CCAAGGTACA TTTACCTCAT1140  
 TGTGTATATA ATGTTTAAATA TTTGTCAGAG CATTCTCCAG GTTTCAGTT TTATTTCTAT1200  
 AAAGTATGGG TATTATGTTG CTCAGTTACT CAAATGGTAC TGTATTGTTT ATATTTGTAC1260  
 CCCAAATAAC ATCGTCTGTA CTTTCTGTTT TCTGTATTGT ATTTGTGCAG GATTCTTTAG1320  
 GCTTTATCAG TGTAATCTCT GCCTTTTAAAG ATATGTACAG AAAATGTCCA TATAAATTTTC1380  
 CATTGAAGTC GAATGATACT GAGAAGCCTG TAAAGAGGAG AAAAAAACAT AAGCTGTGTT1440  
 TCCCCATAAG TTTTTTTAAA TTGTATATTG TATTTGTAGT AATATTCCAA AAGAATGTAA1500  
 ATAGGAAATA GAAGAGTGAT GCTTATGTTA AGTCCTAACA CTACAGTAGA AGAATGGAAG1560  
 CAGTGCAAAT AAATTACATT TTTCCCAAAA AAAAAAAAAA AAAAAAGTGT1620  
 ATACGTTGGA ATGAAAAAAA AAAAAAAAAA AAAAAAAA AAA 1663

1995-01-01 09:55:00

## (2) INFORMATION ON SEQ ID NO. 399:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 2889 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 399:

GATCAGGCCT GTGGTCCAGC TCACTGCCAT TGAGATTCTA GCTTGGGGCT TAAGAAATAT 60  
 GAAAAACTTC CAGATGGCTT CTATCACATC CCCCAGTCTT GTTGTGGAGT GTGGAGGAGA 120  
 AAGGGTGGAA TCGGTGGTGA TCAAAAACCT TAAGAAGACA CCCAACTTTC CAAGTTCTGT 180  
 TCTCTTCATG AAAGTGTTCT TGCCCAAGGA GGAATTGTAC ATGCCCCCAC TGGTGATCAA 240  
 GGTCATCGAC CACAGGCAGT TTGGGCGGAA GCCTGTGCTC GGCCAGTGCA CCATCGAGCG 300  
 CCTGGACCGC TTTCGCTGTG ACCCTTATGC AGGGAAAGAG GACATCGTCC CACAGCTCAA 360  
 AGCCTCCCTG CTGTCTGCCC CACCATGCCG GGACATCGTT ATCGAAATGG AAGACACCAA 420  
 ACCATTACTG GCTTCTAAGC TGACAGAAAA GGAGGAAGAA ATCGTGGACT GGTGGAGTAA 480  
 ATTTGATGCT TCCTCAGGGG AACATGAAAA ATGCGGACAG TATATTCAGA AAGGCTATTC 540  
 CAAGCTCAAG ATATATAATT GTGAACTAGA AAATGTAGCA GAATTTGAGG GCCTGACAGA 600  
 CTTCTCAGAT ACGTTCAAGT TGTACCGAGG CAAGTCGGAT GAAAATGAAG ATCCTTCTGT 660  
 GGTTGGAGAG TTTAAGGGCT CCTTTCGGAT CTACCCTCTG CCGGATGACC CCAGCGTGCC 720  
 AGCCCCTCCC AGACAGTTTC GGGGAATTACC TGACAGCGTC CCACAGGAAT GCACGGTTAG 780  
 GATTTACATT GTTCGAGGCT TAGAGCTCCA GCCCCAGGAC AACAATGGCC TGTGTGACCC 840  
 TTACATAAAA ATAACACTGG GCAAAAAAGT CATTGAAGAC CGAGATCACT ACATTCCCAA 900  
 CACTCTCAAC CCAGTCTTTG GCAGGATGTA CGAACTGAGC TGCTACTTAC CTCAAGAAAA 960  
 AGACCTGAAA ATTTCTGTCT ATGATTATGA CACCTTTACC CGGGATGAAA AAGTAGGAGA1020  
 AACCAATTATT GATCTGGAAA ACCGATTCCT TTCCCGCTTT GGGTCCCACT GCGGCATACC1080  
 AGAGGAGTAC TGTGTTTCTG GAGTCAATAC CTGGCGAGAT CAACTGAGAC CAACACAGCT1140  
 GCTTCAAAAT GTCGCCAGAT TCAAAGGCTT CCCACAACCC ATCCTTTCCG AAGATGGGAG1200

TAGAATCAGA TATGGAGGAC GAGACTACAG CTTGGATGAA TTTGAAGCCA AAAAAATCCT1260  
 GCACCAGCAC CTCGGGGCCC CTGAAGAGCG GCTTGCTCTT CACATCCTCA GGACTCAGGG1320  
 GCTGGTCCCT GAGCACGTGG AAACAAGGAC TTTGCACAGC ACCTTCCAGC CCAACATTC1380  
 CCAGGGAAAA CTTCAGATGT GGGTGGATGT TTTCCCCAAG AGTTTGGGGC CACCAGGCC1440  
 TCCTTTCAAC ATCACACCCC GGAAAGCCAA GAAATACTAC CTGCGTGTGA TCATCTGGAA1500  
 CACCAAGGAC GTTATCTTGG ACGAGAAAAG CATCACAGGA GAGGAAATGA GTGACATCTA1560  
 CGTCAAAGGC TGGATTCCCTG GCAATGAAGA AAACAAACAG AAAACAGATG TCCATTACAG1620  
 ATCTTTGGAT GGTGAAGGGA ATTTTAACTG GCGATTTGTT TTCCCGTTTG ACTACCTTCC1680  
 AGCCGAACAA CTCTGTATCG TTGCGAAAAA AGAGCATTTC TGGAGTATTG ACCAAACGGA1740  
 ATTTGGAATC CCACCCAGGC TGATCATTCA GATATGGGAC AATGACAAGT TTTCTCTGGA1800  
 TGACTACTTG GGTTCCTAG AACTTGACTT GCGTCACAG ATCATTCCCTG CAAAATCACC1860  
 AGAGAAATGC AGGTTGGACA TGATTCCGGA CCTCAAAGCC ATGAACCCCC TTAAAGCCAA1920  
 GACAGCCTCC CTCTTTGAGC AGAAGTCCAT GAAAGGATGG TGGCCATGCT ACGCAGAGAA1980  
 AGATGGCGCC CGCGTAATGG CTGGGAAAGT GGAGATGACA TTGGAAATCC TCAACGAGAA2040  
 GGAGGCCGAC GAGAGGCCAG CCGGGAAGGG GCGGGACGAA CCCAACATGA ACCCCAAGCT2100  
 GGACTTACCA AATCGACCAG AAACCTCCTT CCTCTGGTTC ACCAACCCAT GCAAGACCAT2160  
 GAAGTTTATC GTGTGGCGCC GCTTTAAGT GGTTCATCCT GGCTTGCTGT TCCTGCTTAT2220  
 CCTGCTGCTC TTCGTGGCCG TGCTCCTCTA CTCTTTGCCG AACTATTTGT CAATGAAGAT2280  
 TGTAAAGCCA AATGTGTAAC AAAGGCCAAG GCTTCATTTC AAGAGTCATC CAGCAATGAG2340  
 AGAATCCTGC CTCTGTAGAC CAACATCCAG TGTGATTTTG TGTCTGAGAC CACACCCAG2400  
 TAGCAGGTTA CGCCATGTCA CCGAGCCCCA TTGATTCCCA GAGGGTCTTA GTCCTGGAAA2460  
 GTCAGGCCAA CAAGCAACGT TTGCATCATG TTATCTCTTA AGTATTAAAA GTTTTATTTT2520  
 CTAAAGTTTA AATCATGTTT TTCAAAATAT TTTTCAAGGT GGCTGGTTCC ATTTAAAAAT2580  
 CATCTTTTTTA TATGTGTCTT CGGTTCTAGA CTTCAGCTTT TGGAAATTGC TAAATAGAAT2640  
 TCAAAAATCT CTGCATCCTG AGGTGATATA CTTCATATTT GTAATCAACT GAAAGAGCTG2700  
 TGCATTATAA AATCAGTTAG AATAGTTAGA ACAATTCTTA TTTATGCCCC CAACCATTGC2760  
 TATATTTTGT ATGGATGTCA TAAAAGTCTA TTTAACCTCT GTAATGAAAC TAAATAAAAA2820  
 TGTTTCACCT TTAAACATA GGGGGGGTGG TCGGGGGGTC GGGAGGGGGG GGGGTGGTGT2880  
 GGGGTGTGG

(2) INFORMATION ON SEQ ID NO. 400:

(i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1774 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

(vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 400:

TGAAGGAAGT AACAAAAGTG GGAAACCCCT GATAAACCCC CTCAGGATCC TCATGGAGAA 60  
 CTTACCTATC CAGGAGAAAT AGCAAAGGGG AAAGAACTGG CCCCCCCTG ATTCCGATGA 120  
 CCCTCCCCCC GGGTCCCCTC CCCACAACAT GTGGGAATTC CCAGAAGATA AATTCAAGTT 180  
  
 GCAATTTTCAG TGGGGACATA GCCCAAACCC ATATCACTGG TGATGCCCCAC TTCTTCAGTA 240  
 TTAGGGATTC TCAGTCAGAA GAGACCCCTT GTGTGGCCTG AGTCCCCTCA GGAGGAAGGT 300  
 GGACAACAGA GAAATGAGAG TTTTGATATT TTCTGAAAGA GGAACATGTG TTAGAGATGA 360  
 AGAATCTTCC AAGGCTCATG CAGTTGCTTA GAATAATCAT TACTGTTATA TGAGAAACAT 420  
 TTTAGTAATT TAATAAAAGG ATAATGTTTA TTTAAAAAAC CTGACTTTTC CAGAGTAATT 480  
 TTGTTTTGCA CATTTCATGTT TATTGAAGTG GACTAATTTT TATAATGCAA ATCAGAGTTA 540  
 AATATTAATA ATTGTGTAAA TACAATTGAC ATAGGAATTA CATTAAAATA TTAGGAAGAA 600  
 ACAAGGACAA ATTTAGACCT TGAATCCGAA GAGATAAAGC TTACTTGACT TTCAATGGA 660  
 GAGATGATGA AAACCCACTC ATTCAGTCTT TCAGAACAAA AAGACAGTCA TCTGATAAGA 720  
 GTATGACATG GATGAAATGC CCTACAGGGG CTTGGACAT CTTTAATTTT TGCGATTATG 780  
 TGAAAGAGGT GGACTTTACA GATAATGGAG CAGAAGCCAA CATTAGTAAA AGGAATCCCA 840  
 ACTTCTTCCC ATAGAATTAG AAACATGTGA AAGTACAATA AACTTCTTGT TCAAATTACC 900  
 AGCATCAGAG AGCTTCCCAT TTGCATCTAG ACCTTGAATT TATATTTATT GATCAAGTTC 960  
 TAATTTGTAT GTATATTTTG TGCATATTCA CCAATAACAG TTAAAATTAA TTATGTGTTA1020  
 TAGTTAATAT ATGCACCTAC CTTCTTCCGT TAGTGCATCA GTAAATGTGT TATTTTGTCA1080  
 TTTTCCAAA GAGAGTGTTG TAGGTTTTCC CTGTAGTTCT TCCTTTATAG CTTTTCTTCT1140  
 GATAACCATG ACTTCAGGAG CTTTAAAACT ATCTATCTTG CATTGTGTGC TGGCGGAGAA1200  
 CTAGCCATCA GCCTCCTGAA GCCTGCCATC ATTGTTAATT TGAGGACTGG GCTGTCTTGG1260  
 GGCTCAGAAG GTAAAGAAGT ATTTGAGCAG ATGTGTGTGG GTGGCACTGG ATTCCACCCA1320  
 ACTGCCAAGT TAGTATTGTT AGAGATTTC TTTTACAACA CAAAAATAAG CCTGTGTCAA1380  
 AGATTTTAAA ATCATGGAAA GTTAAAAATCT AGAAAGACCT TAGAGAACCA GCCAACCAAC1440  
 TCTCTCATTT TAAAGTGAA GGATTCATAG CACAGATTAC TTGCCTAAGA TCATCCAGGA1500  
 ACGAAGACAA GAATCCAAAT GTACTTGGGG ACAAGAATTA GTCCCCAAAT TCAGTGTCT1560  
 TCCTAGTATT AAACATTGCC CCTTTCGACA AATTTTGGAT TTCAATCTTG GTATATTTCA1620  
 GTAAACCTGC TGATTTATTA GGTTACTGGG TAGATGACAT TAGAATGTAG ATAGCGTGCA1680  
 CGCTATGATA GACTCTGCTA AGACATGTTC CCAGTGTCCA GCAGCAATGT AGATATGTGT1740  
 GACAGTGGTC ATGTAGAAGT TATAAAGCAG AGTA 1774

## (2) INFORMATION ON SEQ ID NO. 401:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 3982 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN

(C) ORGAN:

(vii) OTHER ORIGIN:

(A) LIBRARY: cdna library

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 401:

```

CCCAAGTGTG ATGCATTGTT CTTGAGATGT TGAAAAGAAA GCAAAAAATA CCTTCTAACT 60
TAAGACAGAA TTTTAAACAA AATGAGCAGT AAAAGTCACA TGAACCACTC CAAAATCAGT 120
GCATTTTGCA TATTTTAA CAAAGACAGC TTGTTGAATA CTGAGAAGAG GAGTGCAAGG 180
AGAAGGTCTG TACTAACAAA GCCAAATTC TCAAGCTCTT ACTGGACTCA GTTCAGAGTG 240
GTGGGCCATT AACCCCAACA TGAATTTTTT CCATATAAAT CTCAATGAAT TCCCTTTCAT 300

TTGAATAGGC AAACCCAAAT CCATGCAAGT GTTTTAAAGC ACTGTCCTGT CTTAATCTTA 360
CATGCTGAAA GTCTTCATGG TGATATGCAC TATATTCAGT ATACGTATGT TTTCTACTT 420
CTCTTGTA AAA ACTGTTGCAT GATCCAACTT CAGCAATGAA TTGTGCCTAG TGGAGAACCCT 480
CTATAGATCT TAAAAAATGA ATTATTCTTT AGCAGTGTAT TACTCACATG GGTGCAATCT 540
TTAGCCCCAG GGAGGTCAAT AATGTCTTTT AAAGCCAGAA GTCACATTTT ACCAATATGC 600
ATTTATCATA ATTGGTGCTT AGGCTGTATA TTCAAGCCTG TTGTCTTAAC ATTTTGTATA 660
AAAAAGAACA ACAGAAATTA TCTGTCAATT GAGAAGTGGC TTGACAATCA TTTGAGCTTT 720
GAAGCAGTCA CTGTGGTGTA ATATGAATGC TGTCTAGTG GTCATAGTAC CAAGGGCAGC 780
TGTCTCCCCT TGGTATAACT GATTTCCCTT TTAGTCCCTCT ACTGCTAAAT AAGTTAATTT 840
TGCATTTTGC AGAAAGAAAC ATTGATTGCT AAATCTTTT GCTGCTGTGT TTTGGTGTGT 900
TCATGTTTAC TTGTTTTATA TTGACTGTTT TAAGTATGAG AGGCTTATAG TGCCCTCCAT 960
TGTAATCCA TAGTCATCTT TTTAAGCTTA TTGTGTTTAA GAAAGTAGCT ATGTGTTAAA 1020
CAGAGGTGAT GGCAGCCCTT CCCTAGCACA CTGGTGGAAG AGACCCCTTA AGAACCTGAC 1080
CCCAGTGAAT GAAGCTGATG CACAGGGAGC ACCAAAGGAC CTTCTGTTAAG TGATAATTGT 1140
CCTGGCCTCT CAGCCATGAC CGTTATGAGG AAATATCCCC CATTCTGAAT TAACAGATGC 1200
CTCCTCTCCA AAGAGAATTA AAATCGTAGC TTGTACAGAT CAAGAGAATA TACTGGGCAG 1260
AATGAAGTAT GTTTGTTTAT TTTTCTTTAA AAATAAAGGA TTTTGGAAT CTGGAGAGTA 1320
AGATATAGTA TAGAGTTTGC CTCAACACAT GTGAGGGCCA AATAACCTGC TAGCTAGGCA 1380
GTAATAAACT CTGTTACAGA AGAGAAAAAG GGCCGGGCAC AGTGGCTTAT TCCTGTAATC 1440
CCAACACTGT GGAAGGCCGA GGCAGGAGGA TCACTTGAGT CCAGGAGTTT GAAACCTACC 1500
TAGGCAACAT GGTGAAACCT TGTCTCTACC AAAATAAAAA TTAGCTGGGC ATGGTGGCAC 1560
GTGCCTGTGG TCCCAGCTAC TTGGGAGGCT GAGGTGGGAG CCTGGGAGGT CAAGGCTGCA 1620
GTGAGCCATG ATCATGCCAC TGCACTCCAT CCTGGGTGAC AGCAAGATCT TGTAATAAAA 1680
AAAAAAAAAA AAACCAGGAG TGAAAAAGGA AAGTAGAAGG CAGCTGCTGG CCTAGATGTT 1740
GGTTTGGGAA TATTAGGTGA TCCTGTTGAG ATTCTGGATC CAGAGCAATT TCTTTAGCTT 1800
TTGACTTTGC CAAAGTGTAG ATAGCCTTTA TCCAGCAGTA TTTTAAGTGG GGAATGCAAC 1860
GTGAGGCCAA CTGAACAATT CCCCCGTGG CTGCCAGAT AGTCACAGTC AAGGTTGGAG 1920
AGTCTCCTTC CAGCCAGTGA CCTACCCAAA CCTTTTGTTT TGTAAACTG CTCTGGAAAT 1980
ACCGGAAGC CCAGTTTCT CACGTGGTTT CTAGCTTCTT CAGACTCAGC CCAAATTAGG 2040
AAGTGCAGAA GCACATGATG GTGAAAACC TAGGATTTGG CAGCCTTCCA GAATGGTATG 2100

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1995-1996 "BIOLOGICAL"



3982

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 402:

CTCTTGGATC	CCCTGGACCA	CTGGGCATAC	TCGCCATCCT	CTTCCGGAGA	TCTGGGCAGT	60
TCGCCTGCAT	TAGAGCTCCT	GATTGAGATT	CAGTGCATCA	GCCGTGCTAT	CCATCACGTC	120
CACACCTCTG	TGCCCACTCT	TGAAGCTGTT	GGGAAATATT	CAGCAATGTC	CGCATCAACT	180
TGCAGAAGAA	TATAAATGAC	ATTTCAAGGA	TAGAAGATAC	CTGATTTTTT	TTCTTTTAA	240
TTTTCTGGT	GCCAATTTCA	AGTTCCAAGT	TGCTAATACA	GCAACAATTT	ATGAATTGAA	300
TTATCTGGT	TGAAAATAAA	AAGATCACTT	TCTCAGTTTT	CATAAGTATT	ATGTCTCTTC	360
TGAGCTATTT	CATCTATTTT	TGGCAGTCTG	AATTTTTTAA	ACCCATTTAA	ATTTTTTTCC	420
TTACCTTTTT	ATTTGCATGT	GGATCAACCA	TCGCTTTAT	GGCTGAGATA	TGAACATATT	480
GTTGAAAGGT	AATTTGAGAG	AAATATGAAG	AAC TGAGGAG	GAAAAAGAAA	AAAAAGAAA	540
GAACCAACA	CCTCAACTGC	CTACTCCAAA	ATGTTGGTCA	TTTTATGTTA	AGGGAAGAAT	600
TTCAGGGTAT	GGCCATGGAG	TGTACAAGTA	TGTGGGCAGA	TTTTCAGCAA	ACTCTTTTCC	660
CACTGTTTAA	GGAGTTAGTG	GATTACTGCC	ATTCAC TTCA	TAATCCAGTA	GGATCCAGTG	720
ATCCTTACAA	GTTAGAAAAC	ATAATCTTCT	GCCTTCTCAT	GATCCAAC TA	ATGCCTTACT	780
CTTCTTGAAA	TTTTAACCTA	TGATATTTTC	TGTGCCTGAA	TATTTGTTAT	GTAGATAACA	840
AGACCTCAGT	GCCTTCCTGT	TTTTCACATT	TTCTTTTTCA	AATAGGGTCT	AACTCAGCAA	900
CTCGCTTTAG	GTCAGCAGCC	TCCCTGAAGA	CCAAAATTAG	AATATCCATG	ACCTAGTTTT	960
CCATGCGTGT	TTCTGACTCT	GAGCTACAGA	GTCTGGTGAA	GCTCACTTCT	GGGCTTCATC	1020
TGGCAACATC	TTTATCCGTA	GTGGGTATGG	TTGACACTAG	CCCAATGAAA	TGAATTAAGG	1080
TGGACCAATA	GGGTGAGCT	CTCTGTGGGC	TGGCAGTCTT	GGAAGCCAGC	TTTCCCTGCC	1140
TCTCATCAAC	TGAATGAGGT	CAGCATGTCT	ATTCAGCTTC	GTTTATTTTC	AAGAATAATC	1200
ACGCTTTCCT	GAATCCAAAC	TAATCCATCA	CCGGGGTGGT	TTAGTGGGCTC	AACATTGTGT	1260
TCCCATTTCA	GCTGATCAGT	GGGCCCTCAA	GGAGGGGCTG	TAAAATGGAG	GCCATTGTGT	1320
GAGCCTATCA	GAGTTGCTGC	AAACCTGACC	CCTGCTCAGT	AAAGCACTTG	CAACCGTCTG	1380
TTATGCTGTG	ACACATGGCC	CCTCCCCCTG	CCAGGAGCTT	TGGACCTAAT	CCAAGCATCC	1440
CTTTGCCCAG	AAAGAAGATG	GGGGAGGAGG	CAGTAATAAA	AAGATTGAAG	TATTTTGCTG	1500
GAATAAGTTC	AAATTCTTCT	GAAC TCAAAC	TGAGGAATTT	CACCTGTAAA	CCTGAGTCGT	1560
ACAGAAAGCT	GCCTGGTATA	TCCAAAAGCT	TTTTATTCCT	CCTGCTCATA	TTGTGATTCT	1620
GCCTTTGGGG	ACTTTTCTTA	AACCTTCAGT	TATGATTTTT	TTTTCATACA	CTTATTGGAA	1680
CTCTGCTTGA	TTTTGGCCTC	TTCCAGTCTT	CCTGACACTT	TAATTACCAA	CCTGTACCTT	1740
ACTTTGACTT	TTTGCATTTA	AAACAGGACA	CGGGGCAGGG	AGAAAAGGGT	TTTGTATTTT	1800
AAACCCGGTG	GTTACCATAA	CGCGGGAAAA	GGTGGCCCAT	ACGGGGCAAA	CGTTTTTGAA	1860
AGGTTAAGGG	TATTTT					1876

## (2) INFORMATION ON SEQ ID NO. 403:

## (i) SEQUENCE CHARACTERISTIC:

- (A) LENGTH: 1216 base pairs
- (B) TYPE: Nucleic acid
- (C) STRAND: individual
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Partial cDNAs produced from individual ESTs by assembling and editing

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

## (vi) ORIGIN:

- (A) ORGANISM: HUMAN
- (C) ORGAN:

## (vii) OTHER ORIGIN:

- (A) LIBRARY: cDNA library

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 403:

```

TCTGTTCTGT GGACAACTGT TACTGTTCTT CCGTGGCCAA CCATGGCGGC CACCAGCCCT 60
ACCCCCGCTC CGGCCACTTT CCTGGACAG TGCCCTCGCA GGAGTACTCA CACCCGCTCC 120
CGCCACACACC CTCCGTCCCC CAGTCCCTTC CCAGCCTGGC GGTCAGAGAC TGGCTTGACG 180
CCTCCAGCA GCCCGGCCAC CAGGATTCT ACAGGGTGTA TGGGCAGCCG TCCACCAAAC 240
ACTACGTGAC GAGCTAACGC CACGCAGGCG GCGGGGCGCT GGGGAATCTT CCTCCCCAGC 300
CCCCGGGCTC GGGAGTTATG CATCCAGAGA CCTGCCCTTC TACCTTCCTC GCCTCCCCCTC 360
TTECTCATTC CATTGCCCCA GGTCTTTTCC TTTTGATTG TGTTTTGGTT TTGGCTTTGT 420
TTTTGATTTT TTTTATTAT GAATCTCCTG GACGCAGAGG TGACAGTGGG AGCTGGCCTG 480
GGCCAGGACG GCAGGTGGCC CTGGAGATGG GAAAGTGTCT GTGTCGAGGC GCTGAGCTCT 540
CTCTCTGTTT CTCCTTTTTT CCTCTACTCC TTCCCCTTCA CACCCCGTG GCTGGAAGGA 600
ACCTCGGCTT CCCTGAAAGC TTGGGGGTCC CACCCTTCTT ACCCCACCCG GGAGGAACGC 660
CCAGGGCCCC GGGCTTGTTT CTCCTCTTGT TTTCTTTTG GGCAGTTTGA TCACTGATCG 720
AGTAAGGAAT GACCTTTAGA TTGTGCGACT TTTGTTTTTG TTTTTTAAA TTTTTTAAA 780
CCAAGAATGA TTTCTCCTGC TTCCTTCTCC TCACCATCTT CCCAGACGGA GTTCAAAGGC 840
CACTTCTCAA GCAGCTTTTG GCACCTTCAG CCTCAGAGTG GAATCTTTTA AAGACAGGAC 900
CCCTATGTCC AGGAAAGGGG AAAAGGAACT TTGCCAATGA TAGTGACCAC AGCAAAAAGCA 960
ATAAAATAAT AAAATAAAAA ACAATAGCAC AGCCCTTGTT GAGGTCAGCA GGGAGGAGGG 1020
GCTGCCCGGA GTTGGGTCTT TGCTGGATT TTGACACAGC AACTTCCTGT AGTGAGCACT 1080
TTGTATGAAT CGTGGACTTC CTGTTCTCAA GGCGCAGGTA TTTATTCTGT ATCTGTCTAG 1140
AGCACACACC AAAATCCAAC CTTCTAATAA ACATGATGGC GCAGTCCCAA AAAAAAGAAA 1200
CAGAAGAAGA AAAGGG
1216

```

TCTGTTCTGT GGACAACTGT TACTGTTCTT CCGTGGCCAA CCATGGCGGC CACCAGCCCT 60

## (2) INFORMATION ON SEQ ID NO. 404:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 271 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 404:

RPRAGASIST LAGLSLKEGE DQKEIKIEPA QAVDEVEPLP EDYYTRPVNL TEVTTLQQRL 60  
 LQPDFQPVCA SQLYPRHKHL LIKRSRLCRK CEHNLSKPEF NPTSIKFKIQ LVAVNYIPEV120  
 RIMSIPNLRY MKESQVLLTL TNPVENLTHV TLFECEEGDP DDINSTAKVV VPPKELVLAG180  
 KDAAAEYDEL AEPQDFQDDP DIIAFRKANK VGFIKVTPO REEGEVTVCF KMKHDFKNLA240  
 APIRPIEESD QGTEVIWLTQ HVLSLGP LL P 271

## (2) INFORMATION ON SEQ ID NO. 405:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 133 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 405:

DLKQDQGKQK ICIFLKSLGH LLTILLQKTR CSWWSTLSSF ILENIIIEIKV SNPTPGYQVK 60  
 TASLLLGQNC GLLAELFYGL QSKWSYLTHH MTKVLNLVRG KVLNIQFWIQ EIIIVNFPFK120  
 SMERMLVENI LKI 133

## (2) INFORMATION ON SEQ ID NO. 406:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 95 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 406:

RGPGHLLKPN GGPPMKLGYG RNLDISPRLP LNRETVKRSI RFHREFWPLIP NSFPHNSVFL60  
VSMKCLES HR KPVKIFLKKK KPQKTDHLSI QWTSI 95

## (2) INFORMATION ON SEQ ID NO. 407:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 55 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 407:

YLSLCPCWPG NFFQWCLLEE VFSSCHFCKI KLEIEYGWHD CTLLVLLFFY SSVPL 55

## (2) INFORMATION ON SEQ ID NO. 408:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 127 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 408:

LQEAPCGEHG RHLHKSAMRR DTESELHHQR QVQGAETVGS GQGSAAFSGP SPYARGPGPD 60  
LPLLGGQHLs IRRWFKCVTM SQCVLELPFS NANLPSLHIS PHPWTRFCVS ESGNLLKRGG120  
STPGLLV 127

(2) INFORMATION ON SEQ ID NO. 409:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 95 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 409:

KGVGLLIMGG QGQVLGHRER VRRMLQTPAH CPRSPLPAPA SDGAALIPCL SSLQIYEGAY60  
HVLHKELPEV TNSVFHEINM WVSQRTATAG TASPP 95

(2) INFORMATION ON SEQ ID NO. 410:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 296 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 410:

VVRLAPTEFGH YVCTVISHAH EVRQMQLRR VRSGVMSEKD HMVTMHDVLD AQWLYDNHKD 60  
ESYLRRVVYP LEKLLTSHKR LVMKDSAVNA ICYGAKIMLP GVLRYEDGIE VNQEIVVITT120  
KGEAICMAIA LMTTAVISTC DHGIVAKIKR VIMERDTYPR KWGLGPKASQ KKLMIKQGLL180  
DKHGKPTDST PATWKQYVD YSESAKKEVV AEVVKAPQVV AEAAKTAKGS EESESESDET240  
PPAAPQLIKK EKKKSKKDKK AKAGLESAGE PGDGSDTTK KKKKKKKAKE VELVSE 296

RECEIVED 11/11/80

## (2) INFORMATION ON SEQ ID NO. 411:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 280 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 411:

RDQGGGSLRS FPRLWTGRHD AVQGNMADAE VIILPKKHKK KKERKSLPEE DVAEIQAEE 60  
 FFIKPESKVA KLDTSQWPLL LKNFDKLNVR TTHYTPLACG SNPLKREIGD YIRTGFIND120  
 KPSNPSSHEV VAWIRRILRV EKTGHSGTLD PKVTGCLIVC IERATRLVKS QQSAGKEYVG180  
 IVRLHNAIEG GTQLSRALET LTGALFQRP LIAAVKQRLR VRTIYESKMI EYDPERRLGI240  
 FWVSCEAGTY IRTLCVHSDQ SRARGTSDAG ASEGSFWSHE 280

## (2) INFORMATION ON SEQ ID NO. 412:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 360 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 412:

RHPHPEGVMG FSRGCGSASS ILWKPDHCPW QRFPGHQEFE EERLRPAGMH GTQRGRGGQV 60  
 DPAAHCPGAH GETHLPRPDQ REDHGHGGAT TFSLNCSAAG TPTPSLVWVL PNGTDLQSGQ120  
 QLQRFYHKAD GMLHISGLSS VDAGAYRCVA RNAAGHTERL VSLKVGLKPE ANKQYHNLVS180  
 IINGETLKL PTPPGAGQGR FSWTLPNGMH LEGPQTLGRV SLLDNGTLTV REASVFDRGT240  
 YVCRMETEY G PSVTSIPVIV IAYPPRITSE PTPVIYTRPG NTVKLNCMAM GIPKADITWE300  
 LPDKSHLKAG VQARLYGNRF LHPQGSLLTIQ HATQRDAGFY KCMANKNILGS DSKTTYIHVF360

"BIOBANK" 2000-2001

## (2) INFORMATION ON SEQ ID NO. 413:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 314 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 413:

EEGDYTCFAE NQVGKDEMRV RVKVV TAPAT IRNKTYLAVQ VPYGDVVTV A CEAKGEFMPK 60  
 VTWLSPTNKV IPTSSEKYQI YQDGTLLIQK AQRSDSGNYT CLVRNSAGED RKTVWIHVNV120  
 QPPKINGNPN PITTVEIAA GGSRLIECK AEGIPTPRVL WAFPEGVVLP APYYGNRITV180  
 HGNGSLDIRS LRKSDSVQLV CMARNEGGEA RLILQLTVLE PMEKPIFHDP ISEKITAMAG240  
 PQHSASTALP RGPRHPAWCG SFPMAPICRV DSSCSASTTR LTACYTLAVS PRWTLGPTAA300  
 WFAMPLATRR GWSP 314

## (2) INFORMATION ON SEQ ID NO. 414:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 109 amino acids  
 (B) TYPE: Protein  
 (C) STRAND: individual  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN  
 (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 414:

RPVPAKLNPR SWPRTAGALP LRPPPLTMAV FHDEVEIEDF QYDEDSETYF YPCPCGDNFS 60  
 ITKEDLENGE DVATCPSCSL IIKVIYDKDQ FVCGETVPAP SANKELVKC 109

## (2) INFORMATION ON SEQ ID NO. 415:

- (i) SEQUENCE CHARACTERISTIC:  
 (A) LENGTH: 103 amino acids  
 (B) TYPE: Protein



(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 415:

YAKSTATSHG NLTLTPTWNA ISLALSKHKQ KLRYRNITCS DLAKSFKHST YYTGMLCSSH 60  
SVTNFTSEGC FSHLVLTSK EYAEYKKSPH SFITSFWTFF LVH 103

(2) INFORMATION ON SEQ ID NO. 416:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 144 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 416:

YTMXIIYFTR XILYXQGGIL KYNTPGXSEL LYIMIVSFHI SWXLXXGKGT XKSIFIYIKT 60  
KXXQXRLXPP KCLVSLNNM NEXXKMNQIT WXTHRRXNKX AQEIKSCFKL GHIKGGKGSE120  
RRVRKISSQA TKNLXRRQPP NXIR 144

(2) INFORMATION ON SEQ ID NO. 417:

(i) SEQUENCE CHARACTERISTIC:  
(A) LENGTH: 74 amino acids  
(B) TYPE: Protein  
(C) STRAND: individual  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN  
(A) ORGANISM: HUMAN

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YPFFTLTCORN RVFDISSYVK EMLQNVNCFK LKLPLKRPRY IYLIIVYIMFN ICQSILQVCS 60  
FISIKYGYVV AQLLKWYCIV YICTPNNIVC TFCFLYCICA GFFRLYQCNL CLLRYVQKMS120  
I 121

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 419:

```

FFFFFFFFS  FQRIHFFFF  FFFFFFFGKNVI  YLHCFHSSTV  VLGLNISITL  LFPIYILLEY  60
YYKYNIQFKK  TYGETQLMFF  SPLYRLLSII  RLOWKFIWTF  SVHILKGRDY  TDKA        114

```

## (2) INFORMATION ON SEQ ID NO. 420:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 765 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
- (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 420:

```
IRPVVQLTAI EILAWGLRNM KNFQMASITS PSLVVECGGE RVESVVIKNL KKTPEFPSSV 60
LFMKVFLPKE ELYMPPLVIK VIDHRQFGRK PVVGQCTIER LDRFRCDPYA GKEDIVPQLK120
ASLLSAPPCR DIVIEMEDTK PLLASKLTEK EEEIVDWWSK FDASSGEHEK CGQYIQKGYS180
KLKIYNCELE NVAEFEGLTD FSDTFKLYRG KSDENEDPSV VGEFKGSFRI YPLPDDPSVP240
APPRQFRELP DSVPOECTVR IYIVRGLELQ PQDNNGLCDP YIKITLGKKV IEDRDHYIPN300
TLNPVFGRMY ELSCYLPQEK DLKISVYDYD TFTRDEKVGE TIIDLENRFL SRFGSHCGIP360
EEYCVSGVNT WRDQLRPTQL LQNVARFKGF PQPILSEDGS RIRYGGRDYS LDEFANKIL420
HQHLGAPEER LALHILRTQG LVPEHVETRT LHSTFQPNIS QGKLQMWVDV FPKSLGPPGP480
PFNITPRKAK KYLRVLIWN TKDVILDEKS ITGEEMSDIY VKGWIPGNEE NKQKTDVHYR540
SLDGEENFNW REVFPFDYLP AEQLCIVAKK EHFWSIDQTE FRIPRLIIQ IWDNDKFSLD600
DYLGFLELDL RHTIIPAKSP EKCRDMIPD LKAMNPLKAK TASLFEQKSM KGWWPCYAEK660
DGARVMAGKV EMTLEILNEK EADERPAGKG RDEPNMNPCL DLPNRPETSF LWFTNPCKTM720
KFIVWRRFKW VIIGLLFLLI LLLFVAVLLY SLPNYLSMKI VKPNV 765
```

## (2) INFORMATION ON SEQ ID NO. 421:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 289 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
- (A) ORGANISM: HUMAN

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 421:

```
ETQVVIQKRL VIVPYLNDQP GWDSKFRLVN TPEMLFFRND TELFGWKVVK RENKSPVKIP 60
FTIQRSVMDI CFLFVFFIAR NPAFDVDVTH FLSCDAFLVQ DNVLGVPDDH TQVVFLGFPG120
CDVERRAWWP QTLGENIHPH LKFSLGNVGL EGAVQSPCFH VLRDQPLSPE DVKSKPLFRG180
PEVLVQDFVG FKFIQAVVSS SISDSTPIFG KDGLWEAFES GDILKQLCWS QLISPGIDSR240
NTVLLWYAAV GPKAGKESVF QINNCFSYFF IPGKGVIID RNEQVFFLR 289
```

(2) INFORMATION ON SEQ ID NO. 422:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 90 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 422:

```
FFLYSFSSDN HDFSFKTIY LAFVSGGELA ISLLKPAIIV NLRTGLSWGSG EGKELFEQMC60
VGGTGEHPTA KLVLLLEISFY NTKISLCORF                                     90
```

(2) INFORMATION ON SEQ ID NO. 423:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 81 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 423:

TPSGSSSWRTY LSRNSKGER TGPPLIPMTL PPGPLPTTCG NSQKINSSCN FSGDIAQTHI60  
TGDAHFFSIR DSQSEETPCV A 81

(2) INFORMATION ON SEQ ID NO. 424:

- (i) SEQUENCE CHARACTERISTIC:
- (A) LENGTH: 129 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 424:

```
ENWASRYFQS SFTEQKVWVG HWLEGDSPTL TVTIWAATGG IVQLASRCIP HLKVCWIKAI 60
YTLAKSKAKE IALDPESQQD HLIFFNQHLG QQLPSTFLFH SWFFFFFLLQ DLAVTQDGVQ120
WHDHGSLQP                                     129
```

(2) INFORMATION ON SEQ ID NO. 425:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 122 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 425:

```
EAQKWDCIWT KNYKKVQSLV SRMQALALGD GSSLENPAAD SLFQRRSFER RVCYISFETV 60
TLWRLKDLVV SCFLKITGIW RPKPFWTDI SSKYFFIKVF EGDDFLDLWL DILGFPDYIV120
LS                                     122
```

(2) INFORMATION ON SEQ ID NO. 426:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 105 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 426:

```
REFKSPQRQN HNMSRRNKKL LDIPGSFLYD SGLQVKFLSL SSEEFELIPA KYFNLFITAS 60
SPIFFLGKGM LGLGPKLLAG GGAMCHSITD GCKCFTEQGS GLQQL                                     105
```

13313 13313 13313

## (2) INFORMATION ON SEQ ID NO. 427:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 96 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 427:

EKYEELRRKK KKKKRTNNLN CLLQNVGHFM LREEFQGMAM ECTSMWADFQ QTLFPLFKEL60  
VDYCHSLHNP VGSSDPYKLE NIIFCLLMIQ LMPYSS 96

## (2) INFORMATION ON SEQ ID NO. 428:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 151 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

- (iii) HYPOTHETICAL: yes

- (vi) ORIGIN
  - (A) ORGANISM: HUMAN

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 428:

RKKGETEREL SASTQTLSHL QGHLPSWPRP APTVTSASRR FIIKKNQKQS QNQNKIQKEK 60  
TWNGMRKRG GEEGRAGLW MHNSRARGLG RKIPQRPAAC VALARHVVEG GRLPIHPVEI120  
LVAGLLGGVK PVSDRQAGKG LGDGGCGRER V 151

## (2) INFORMATION ON SEQ ID NO. 429:

- (i) SEQUENCE CHARACTERISTIC:
  - (A) LENGTH: 150 amino acids
  - (B) TYPE: Protein
  - (C) STRAND: individual
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 429:

RHAGGGALGN LPPQPPGSGV MHPETCPSTF LASPLPHSIA PGLFLLDFVL VLALFLIFFY 60  
YESPGRRGDS GSWPGPGRQV ALEMGKCLCR GAELSLCFSF FPLLLPLHTP VAGRNLGFPE120  
SLGVPPFLPH PGGTPRAPGL FLLLSFWAV 150

(2) INFORMATION ON SEQ ID NO. 430:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 285 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 430:

SWRTGGWAYA GDRLENKTSV SVASWASSLN ARMDNRFATA FVIACVLSLI STIYMAASIG 60  
TDFWYEYRSP VQENSSDLNK SIWDEFISDE ADEKTYNDAL FRYNGTVGLW RRCITIPKNM120  
HWYSPPERTE SFDVVTKCVS FTLTEQFMEK FVDPGNHNSG IDLLR TYLWR CQFLLPFVSL180  
GLMCFGALIG LCACICRSly PTIATGILHL LAGLCTLGSV SCYVAGIELL HQKLELPDNV240  
SGEFGWSFCL ACVSAPLQFM ASALFIWAH TNRKEYTLMK AYRVA 285

(2) INFORMATION ON SEQ ID NO. 431:

(i) SEQUENCE CHARACTERISTIC:

(A) LENGTH: 116 amino acids

(B) TYPE: Protein

(C) STRAND: individual

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: ORF

(iii) HYPOTHETICAL: yes

(vi) ORIGIN

(A) ORGANISM: HUMAN

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(xi)

LCPFWWAIPM HVFGYGDTPS PQSHCAIVSK KCIIISLFIC LITNEFIPDA FIQITGIFLN 60  
WTSIFIPEVC ANGGCHVDGG NEAKHTSNYK CCSKTVIHSG IQTARPGCYG DRGLVL 116